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The Effect of Learning Media About Healthy Snacks on Students' Knowledge and Attitudes At SDN 38 Bora, Palopo City in 2024

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Abstract, Background: *Elementary school students have limited knowledge about healthy food, and the benefits of choosing healthy snacks. They do not understand the nutritional value of various types of food or the impact of consuming unhealthy snacks on their health. Students are often exposed to unhealthy snacks around them, such as fast food, snacks and sodas, and other less nutritious snacks.* ***Objective:*** *This study aims to encourage changes in students' knowledge and consumption attitudes, namely replacing unhealthy snacks with healthy snacks that are beneficial to their health.* ***Method:*** *This study uses a pre-experimental method, with a One Group Pre Post Test design to measure students' initial abilities before and after participating in learning activities. The population of this study was all students of SDN 38 Bora, Palopo City in 2024, totaling 151 students. The sampling method used was the Cluster Random Sampling Technique as a sampling technique, because the population was quite large, and this sampling technique is often used in various studies in the health sector, 21 respondents were obtained.* ***Results:*** *The study showed that the average knowledge before and after was 5.90 while the average attitude before and after was 27.76, the knowledge value p value = 0.000 ≤ 0.05 then H0 was rejected using a 95% confidence level. While the attitude value p value = 0.001 <0.05. Conclusion: there is an influence of the use of Video Learning Media on knowledge and attitudes about healthy snacks for students of SDN 38 Bora, Palopo City.*

Keywords: *Learning media, Knowledge, Attitude, Snack*

1. INTRODUCTION

Foodborne diseases or also known as foodborne diseases (FBD) are infectious diseases or poisoning caused by microbes or agents that enter the body through food consumed.(1) The Public Health Emergency Operation Center (PHEOC) in 2020 based on data from the Directorate of Environmental Health and the Ministry of Health (Kemenkes) recorded 163 food poisoning outbreaks, 7132 cases with a Case Fatality Rate (CFR) of 0.1%. The tendency for food poisoning outbreaks to mostly still come from ready-to-eat food and from household cooking (36%) (1)

Based on data from the Ministry of Health of the Republic of Indonesia, around 2 million people per year die from diseases caused by food and diarrhea due to water contamination. Diarrhea is an endemic disease in Indonesia which is a potential Extraordinary Event (KLB) disease that is often accompanied by death. Based on data from the Indonesian Health Profile (2022), diarrhea outbreaks have occurred every year from 2019 to 2022 accompanied by an increase in the CFR (Case Fatality Rate). In 2019, the CFR of diarrhea was 1.08%, increasing to 1.14% in 2021. The increase in CFR during outbreaks in Indonesia continued to occur up to 2.47% in 2022 and 3.04% in 2023. This CFR figure is not yet as expected, which is <1% (Latifah, 2023). According to WHO and UNICEF, there are around 2 billion cases of diarrhea

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worldwide every year. of all these data, 78% occur in developing countries, especially in Africa and Southeast Asia. Then based on the Indonesian Health Profile data, diarrhea cases found in Indonesia in 2021 at all ages reached 7,350,708 people and there were 182,338 (6.2%) children aged 5-14 years and 165,644 (6.7%) aged 15-24 years. Meanwhile, based on the results of mapping diseases with the potential for an outbreak based on the SKDR for the first semester period (weeks 1 to 24) in South Sulawesi Province, it can be seen that there are 2 most common diseases, one of which is Acute Diarrhea with 39,452 cases. Meanwhile, in Palopo City in July there were 187 cases of diarrhea and in August 2023 this increased to 245 cases or an increase of 58 cases, this was during the dry season (2)

Public Health Emergency Operation Center (PHEOC) In 2021, based on data from the Directorate of Environmental Health and the Ministry of Health (Kemenkes), there were 163 food poisoning outbreaks, 7132 cases with a Case Fatality Rate (CFR) of 0.1%. The tendency for food poisoning outbreaks to mostly still come from ready-to-eat food and from household cooking (36%) (3)

This ready-to-eat food is widely consumed by children at school, as the final report on the results of monitoring and verification of the national school children's snack food safety profile in 2023, showed that 98.9% of children bought snacks at school. As for snacks consumed such as popcorn, chips, biscuits, cookies, jelly, and candy, some are not yet safe and not yet appropriate (4)

Based on food sampling of school children's snacks carried out in 6 provincial capitals (DKI Jakarta, Serang, Bandung, Semarang, Yogyakarta and Surabaya), 72.08% were found to contain hazardous substances. Another finding, based on data on extraordinary events (KLB) of food poisoning collected by the Directorate of Food Safety Surveillance and Counseling of BPOM RI from the POM Centers/Balai POM throughout Indonesia in 2020-2022, showed that 17.26% -25.15% of these cases occurred in school environments with the highest group of Elementary School students (5)

In 2020, a food sampling test of school children's snacks was conducted on 200 samples from the POM Center in Bandung as many as 148 samples (74%), LOKA POM Tasikmalaya as many as 28 samples (14%) and LOKA POM Bogor as many as 24 samples (12%). The results of the food sampling test of school children's snacks showed that 65 samples did not meet the requirements. Based on data from the Bandung POM Center in 2020, there were 2422 cases of poisoning that occurred which were taken from 63 Hospitals spread across West Java Province. The most common poisoning was caused by animals as many as 1559 cases (64.37%). And in cases of food poisoning, there were 85 cases (3.51%). The results of the food

sampling test of school children's snacks showed 200 samples. Of the 200 snack food samples that had been tested, there were 65 samples that did not meet the requirements (BPOM RI, 2020). One of the factors that influences the choice of snacks in children is the child's knowledge about snack foods. This is due to a lack of knowledge about balanced nutrition. Many students may not understand the concept of balanced nutrition and the importance of choosing healthy snacks to support it(6)

2. METODELOGY

The type of research used is pre-experiment, using the One Group Pre Post Test design to measure students' initial abilities before and after participating in learning activities. The following is an explanation of this method:

Population and Sample

1) Population

The population in this study was all students of SDN 38 Bora, Palopo City in 2024, totaling 151 students.

2) Sample

The samples taken were students of grades IV, V, and VI of SDN 38 Bora, Palopo City. Sample calculation in this study used the Slovin formula:

n=N / (1+ (N × e2)

Description:

n = Number of samples

N = Number of population

e = error tolerance limit

In this study, the maximum tolerance for research error is 5% (0.5). So the sample calculation was carried out using the Slovin formula, as follows:

n = N / (1+ (N x e2))

n = 151 / (1+ (151 x 0.052))

n = 151 / (1+ (151 x 0.025)

n = 151 / (1+ (3.775))

n = 151 / 4.775

n = 37 samples

Based on the calculation above, 37 people were obtained. The sampling method used in this study was the Cluster Random Technique Sampling as a sampling technique, due to the large population, and also the sampling technique with the cluster

random sampling method is often used in various studies in the health sector. For that, it is taken proportionally from each class in the following way:

No	class	Number of Students	Number of samples in proportion	Final sample size
1	IV	25	25 / 151 × 37	6
2	V	31	31 / 151 × 37	8
3	VI	30	30 / 151 × 37	7
Jumlah		**86**		**21**

The implementation of the research began with data collection, this research was conducted from May 29 to June 5 at SDN 38 Bora, Palopo City. The sampling technique used Cluster Random Sampling, from the calculation of the formula, 21 respondents were obtained as research samples. The implementation of the research was divided into 3 stages, namely:

a. Initial Stage, in the first week, starting with filling out the informed consent sheet or letter of respondent's consent first for students in grades VI, V and VI who were respondents, then given a pre-test questionnaire sheet. The questionnaire sheet was given to assess the pretest scores of students regarding knowledge and attitudes about healthy snacks. After the students had finished filling out the questionnaire, the researcher gave directions to the respondents about the research process that the researcher would carry out.(7)

b. Intervention Stage, providing health promotion with education about healthy snacks again using Video media. Education contains the definition of healthy snacks, types of PJAS (School Children's Snacks), characteristics of healthy snacks, food substances that interfere with health, the safety of snack foods, requirements for healthy foods and how to consume safe snacks. The time schedule for the intervention activities is as follows:

1) May 29, 2024 Opening and Pre-test

a) Opening (08:00 - 09:00):

(1) Greetings from the principal and researchers

(2) Explanation of the purpose and importance of the healthy snack program

b) Pre-test (09:00 - 10:00):

(1) Distributing consent forms to respondents

(2) Collecting initial data on students' knowledge and attitudes regarding healthy snacks

2) June 1, 2024 Delivery of Learning Materials

a) Delivery of healthy snack material (08:00 - 10:00):

(1) Detailed explanation of healthy and unhealthy snacks

(2) Examples of healthy snacks that are easy to make at home

b) Interactive activities (10:00 - 12:00):

(1) Showing a video about healthy snacks

(2) Group discussion and Q&A

3) June 2 2024 Practical Activities

a) Practical workshop on making healthy snacks (08:00 - 10:00):

(1) Demonstration of making healthy snacks

(2) Students practice making healthy snacks guided by teachers and researchers

b) Evaluation (10:00 - 12:00):

(1) Discussion on the experience of making healthy snacks

(2) Student reflection on changes in attitudes and knowledge after receiving the material

4) June 3, 2024 Implementation of Knowledge

a) Application of knowledge in the school canteen (08:00 - 10:00):

(1) Arranging the canteen to sell healthy snacks that have been learned

(2) Students buy and consume healthy snacks

b) Observation and Discussion (10:00 - 12:00):

(1) Observation of student behavior when choosing snacks in the canteen

(2) Group discussion on experiences and changes felt

5) June 4, 2024 Confirmation Material

a) Review and reinforcement of material (08:00 - 11:00):

(1) Review of material from the video that has been delivered

(2) Reinforcement of messages about the importance of healthy snacks

6) June 5, 2024 Post-test and Closing

a) Post-test (08:00 - 10:00):

(1) Collecting final data to evaluate changes in students' knowledge and attitudes

b) Closing (10:00 - 12:00):

(1) Closing of the event and appreciation to participants

c. Final Stage, after the intervention was given, a post-test questionnaire was given, to assess the score of the influence of video learning media on students' knowledge and attitudes

about healthy snacks at SDN 38 Bora, Palopo City. After completing the post-test, the researcher immediately took care of the research completion letter.

3) Final Stage of Research

After obtaining research data on knowledge and attitudes both before and after the Video media intervention was given, the data that had been obtained was then grouped according to the variables to be measured in the operational definition, namely knowledge and attitudes. Then the data is processed using a frequency distribution table, data normality test and using the Shapiro Wilk value method. The results of all normality tests, both pre-test and post-test in this study, are not normally distributed, so using the Wilcoxon test with the SPSS application on a computerized system.

Univariate Analysis

In the frequency distribution of age, gender, parental education and parental employment status, as well as the average results of knowledge and attitudes before and after being given video media intervention about healthy snacks for students of SDN 38 Bora, Palopo City, as follows:

a. Respondent Gender

Table 1 Frequency Distribution Based on Gender in students of SDN 38 Bora, Palopo City in 2024 (N=21)

Gender	Frekuensi (f)	Persentase (%)
Girls	12	57,1 %
Boys	9	42,9 %
Total	21	100 %

Source: Primary Data, 2024

Based on table 1, 21 respondents studied, the number of girls respondents was 12 people (57.1%) and the number of Boy respondents was 9 people (42.9%).

Table 2 Frequency Distribution Based on Age of Students of SDN 38 Bora, Palopo City in 2024 (N=21)

Age	Frekuensi (f)	Persentase (%)
10 years	6	28,6 %
11 years	5	23, 8 %

12 years	7	33,3 %
13 years	3	14,3 %
Total	21	100%

Source: Primary Data, 2024

Based on table 2, Respondents aged 10 years were 6 people with a percentage of 28.6%. At the age of 11 years there were 5 people with a percentage of 23.8%, at the age of 12 years there were 7 people with a percentage of 33.3%, and finally at the age of 13 years there were 3 people with a percentage of 14.3%.

Table 3 Percentage of Knowledge Before and After Being Given Media Video Learning

No	Knowledge Questions about Healthy Snacks	Before (%)		After (%)	
		No	Yes	No	Yes
1	Do you know the right way to choose healthy snacks?	71,4	28,6	19,0	81,0
2	Did you know that foods that use various brightly colored dyes are not safe to consume?	66,7	33,3	33,3	66,7
3	Did you know that drinks that use artificial sweeteners are unhealthy?	81,0	19,0	23,8	76,2
4	Did you know that packaged food is guaranteed to be cleaner?	85,7	14,3	19,0	81,0
5	Did you know that food with damaged packaging is not safe to eat?	52,4	47,6	19,0	81,0
6	Did you know that eating food past its expiration date is dangerous?	38,1	61,9	00,0	100,0
7	Did you know that food with too many flavorings and preservatives is not good for your health?	90,5	9,5	19,0	81,0
8	Do you know that eating breakfast and bringing a packed lunch is	28,6	71,4	14,3	85,7

	healthier than buying snacks at school?				
9	Do you wash your hands before eating?	76,2	23,8	00,0	100,0
10	Do you prefer drinks that contain artificial sweeteners?	57,1	42,9	76,2	23,8

Source: Primary Data, 2024

The results of table 3 show that of the 10 knowledge questions before being given intervention using Video Learning media intervention, the smallest percentage of correct answers was in question number 7 regarding artificial sweeteners, namely 9.5%.

Table 4 Average Attitude Before and After Being Given Media Video Learning for Students at SDN 38 Bora, Palopo City

Variabel	N	Mean	SD	MIN	MAX
Attitude					
Before	21	26,05	7,890	11	37
After	21	29,48	5,741	22	40

Source: Primary Data, 2024

Based on table 4. The attitudes of students at SDN 38 Bora, Palopo City before being given intervention through video learning media about healthy snacks, with an average of students' attitudes before being unsupportive (26.5) and the attitudes of students after being given Video Learning Media with an average of students' attitudes being supportive became (29.48).

Table 5 Percentage of Attitudes Before and After Being Given Media Video Learning for Students of SDN 38 Bora, Palopo City

No	Attitudes	Before				After			
		SS	S	TS	STS	SS	S	TS	STS
1	Choose snacks that are served covered	9,5	28,6	42,9	19,0	33,3	42,9	14,3	9,5
2	Buy snacks whose sellers look clean	47,6	33,3	19,0	0	47,6	33,3	19,0	0
3	Buying brightly colored snacks	19,0	47,6	19,0	14,3	42,9	33,3	9,5	14,3

4	Buying street food served openly	19,0	33,3	38,1	9,5	19,0	19,0	38,1	23,8
5	Reduce the consumption of snacks that are processed by frying	14,3	19,0	19,0	47,6	23,8	28,6	23,8	23,8
6	Avoid snacks and drinks that are too sweet	23,8	28,6	23,8	23,8	19,0	42,9	19,0	19,0
7	Before buying street food, pay attention to the cleanliness of the person handling it.	28,6	23,8	28,6	19,0	4,8	95,2	28,6	66,7
8	Avoid foods that appear to contain borax (for example, meatballs that are whiter in color than meatballs in general)	14,3	66,7	14,3	4,8	38,1	61,9	0	0
9	Choose drinks that use saccharin or artificial sweeteners	19,0	28,6	33,3	19,0	0	14,3	47,6	38,1
10	Choose snacks sold in clean places	23,8	33,3	23,8	19,0	28,6	42,9	14,3	14,3

Source: Primary Data, 2024

The results of table 5 show that out of 10 attitude statements before being given intervention using Video Learning Media, the most wrong answers were found in question number 5 (Reducing fried snacks) as much as 47.6%. After being given intervention using Video Learning Media, there was an increase in the percentage of students' attitudes in statements that supported and did not support.

Bivariate Analysis

Before conducting the bivariate test, a data normality test was first carried out using the Shapiro Wilk test. It was found that the knowledge and attitude data were not normally distributed, so the bivariate analysis in this study used the Wilcoxon test which aims to test the effect on knowledge and attitudes before and after the intervention was given.

Table 5 The Effect of Using Video Learning Media on Knowledge and Attitudes About Healthy Snacks for Students of SDN 38 Bora, Palopo City

Variabel	Before	After	p	
	mean	Mean	mean	value
Knowledge	3,52	8,28	5,90	0,000
Attitudes	26,05	29,48	27,76	0,001

Source: Primary Data, 2024

Based on table 5. The average knowledge before and after was 5.90 while the average attitude before and after was 27.76, the knowledge value p value = 0.000 ≤ 0.05, then H0 was rejected using a 95% confidence level. While the attitude value p value = 0.001 <0.05. This shows that there is an effect of using Video Learning Media on knowledge and attitudes about healthy snacks for students of SDN 38 Bora, Palopo City.

3. DISCUSSION

Characteristics of Students of SDN 38 Bora, Palopo City

a. Age

The results of the study showed that most students in grades IV, V and VI were 12 years old. Age is the most important factor that influences a person's behavior which is associated with how long a person is exposed to life experiences experienced with various aspects that influence one of which is knowledge and attitude. The older or more mature the students are, the more their knowledge will increase in carrying out useful actions such as consuming healthy snacks. According to Wahyu Nur'aini (2019) the level of knowledge can be influenced by a person's age.

According to the characteristics of respondents based on age are the average age of students is 12 years old. The youngest age is 10 years old and the oldest age is 13 years old, it is believed that the average age of students of SDN 38 Bora, Palopo City is in the range of 3.4 to 39.3 years. Research results According to Rismayanti Latif (2020), the average respondent was 12 years old, which is included in the productive age group. Age can affect a person's way of thinking, so that often with increasing age, the way of thinking will develop. In addition, at a productive age, the possibility of a decline in intellectual and verbal levels is considered non-existent because productive age is a phase where a person is active in various activities related to social life and the future. One of the internal factors that affects a person's level of knowledge is work.(8)

b. Gender

The results of a study conducted on most students of SDN 38 Bora, Palopo City, grades IV, V and VI showed that most of them were female. In addition to age, gender also affects a person's receptivity, namely to adopt new information or knowledge and affect a person's psychological condition. Green's theory states that gender is a predisposing factor or enabling factor that contributes to a person's health behavior. Females tend to be more concerned about environmental conditions and their health. Women tend to behave better than men. This phenomenon results in women who are more concerned about environmental conditions and their health.(9) Based on the results of research \ it is known that children with female gender tend to have better knowledge about healthy snacks when compared to boys. According to research by(7) gender actually shows a significant influence on students' knowledge in choosing healthy snacks, the level of healthy snacks in female respondents is lower than in males. In other words, women tend to always consume healthy snacks compared to men.

c. Parental Education and Parental Employment Status

The results of the study on parental education and parental employment status show that the frequency distribution of half of the parents' education is college and most of the parents' employment status is working. This is in line with the research of the characteristics of respondents based on parental education in the intervention group, some parents (fathers) are elementary school as many as 41.5, while (mothers) are elementary school as many as 46.3 and in the work of parents (fathers) 46.3 are self-employed while (mothers) 73.2 are unemployed. Parental education can influence thought patterns that include childcare patterns, health, education, and children's nutritional intake. Parental education can also encourage children's choice of snack foods. One of the factors that determines parents' income is their job. parents' jobs can also affect the family's economy and ability to meet children's needs. Research by Nurdiyanti & Wahyuningtyas (2019) found that the results of the analysis of subjects with non-governmental parental jobs were more likely to buy snacks than subjects with governmental parental jobs with a difference of 11%. If a child has a family with a low economy, the child's needs and consumption are less met. This results in children's ability to choose healthy snacks also being limited.

Average Knowledge of Students Before and After Being Given Video Learning Media About Healthy Snacks.Average Knowledge of Students Before and After Being Given Video Learning MediaConclusion

Based on the results of the study obtained from the influence of Video Learning Media on knowledge and attitudes about healthy snacks for students of elementary school students 38 Bora, Palopo City, the researcher drew the following conclusions:

1. The average knowledge of students before and after being given video learning media about healthy snacks, the study of SDN 38 Bora, Palopo City showed that there was an increase before the intervention, namely 3.52 and after the intervention, namely 8.28. The results of the analysis of SDN 38 Bora, Palopo City showed that after the intervention was carried out with the help of video media about healthy snacks, there was an increase in students' knowledge and attitudes.
2. The attitude of students before being given education through video learning media pre-test with an average value of 26.05 while the attitude of students after being given education through video learning media post-test with an average value of 29.48 shows that students after intervention using Video Learning Media experienced an increase
3. Based on the results of the study, there is data on knowledge and attitudes using the Wilcoxon test obtained a p value = 0.000 ≤ 0.05 using a confidence level of 95%, then H0 is rejected, meaning there is an effect of the use of Video Learning Media on knowledge and attitudes about healthy snacks for students of SDN 38 Bora, Palopo City.

Suggestions

Based on the results of the study and discussion, the researcher would like to provide suggestions to several related parties, including:

1. For elementary school students

Elementary school students are given more intensive education about the importance of choosing healthy snacks. The school can organize routine programs that involve activities such as health counseling, healthy food exhibitions, and healthy snack cooking competitions. In addition, the role of parents is very important in providing examples and providing healthy snack choices at home. Cooperation between schools, parents, and other related parties is expected to increase students' knowledge and positive attitudes towards healthy snacks, which will ultimately support their optimal growth and development.(10)

2. For SDN 38 Bora, Palopo City

The school is expected to have health education specifically regarding healthy snacks in physical education and health subjects can be a means to increase knowledge and attitudes regarding healthy snacks for students so that insight into healthy snacks increases.

REFERENCES

Oliver SP. Foodborne Pathogens and Disease Special Issue on the National and International PulseNet Network. 2019;16(7):439–40.

Anisah INUR, Keperawatan PS, Kesehatan FI, Surakarta UM. HUBUNGAN KEBIASAAAN ANAK JAJAN DILUAR DENGAN KEJADIAN DIARE PADA SISWA SD NEGERI 3 MUDAL BOYOLALI. 2019;

Fekadu ST, Gebrewahid AL, Mankoula W, Eteng W, Lokossou V, Kawe Y, et al. Public health emergency operations sectional study centres in Africa : a cross- - assessing the implementation status of core components and areas for improvement , December 2021. 2023;1–8.

Pengabdian J, Fadhilah TM, Sari RP, Masinambow BG, Andriana DS, Arifiana WL, et al. Edukasi Pendidikan Gizi Terkait Pemilihan Jajanan Sehat pada Anak Usia Sekolah Nutrition Education Related to Healthy Snack Selection in School-Age Children. 2024;8(1):91–102.

Anak S, Dasar S, Madrasah DI. No Title. 2019;3(September).

Status T, Anak G, Sd DI, Teunom N. Jurnal Biology Education Volume. 10 Nomor 1 Edisi Khusus 2022. 2022;53–64.

Kesehatan P, Kesehatan K. Available at http://jurnal.utu.ac.id/jons/article/view/5242 The Effect of Nutrition Education with E-Booklet Media on Knowledge and Attitude About Anemia in Adolescent Girls at SMP N 1 Gemuh , Kendal Regency. 2022;3(1):9–13.

Afifaturrohma E, Purnasari G, Jember PN. PENGARUH MEDIA VIDEO TERHADAP TINGKAT PENGETAHUAN PELAJAR MENGENAI JAJANAN SEHAT DI SDN PANCAKARYA 01 JEMBER The Effect of Video Media on Students ' Knowledge Level about Healthy Snacks at SDN Pancakarya 01 Jember. 2020;1(September):34–45.

Firmansyah D. Teknik Pengambilan Sampel Umum dalam Metodologi Penelitian : Literature Review General Sampling Techniques in Research Methodology : Literature Review. 2022;1(2):85–114.

Papotot GS, Rompies R, Salendu PM. Pengaruh Kekurangan Nutrisi Terhadap Perkembangan Sistem Saraf Anak. 2021;13(28):266–73.