



Effect of PAIKEM Method on Knowledge Level of Healthy Snacks in Gorontalo City Elementary School Students

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ABSTRACT: School children usually have more attention, activities outside the home, and often forget about eating time so they buy snacks at school to just block the stomach. School children who are less guaranteed health can potentially cause poisoning, indigestion and if it lasts a long time will lead to poor nutritional status. In addition, unhealthy snacks can cause children's achievements in school to also be disrupted. Health education with the latest innovations is by using PAIKEM methods (Active Learning, Innovative, Creative, Effective, and Fun). This learning model uses a learning medium of ladder snake game that contains elements about health education so that school-age children can learn about health education by relaxing, interesting and they can easily understand about health education about healthy snacks provided. The purpose of this study is to find out and analyze the influence of PAIKEM methods on the level of knowledge about healthy snacks in class V students in SDN No.98 the North City of Gorontalo. The design used is a pre-experimental research design (one group pre-post test design) which is a group of subjects observed before the intervention with the pre-test and after the intervention with the post-test. Research results showed there is an Influence of PAIKEM Methods On Knowledge Level on Healthy Snacks in Class V Students in SDN No. 98 the North City of Gorontalo.

KEYWORDS: PAIKEM, Student Knowledge, Healthy Snacks

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I. INTRODUCTION

School children according to the definition of WHO (World Health Education) are a group of children aged between 7-15 years, while in Indonesia usually children aged 7-12 years. According to Gunarsa (2008), school-age children are quiet or latent times where what has happened and been fostered in previous times will continue for the next time. This age stage is also referred to as the age of the group where children begin to shift attention and intimate relationships in the family, cooperation between friends, and attitudes towards work or learning.

School children usually have more attention, activities outside the home, and often forget about eating time so they buy snacks at school to just scratch their stomach (Rakhmawati, 2009). School children do not understand how to choose healthy snacks so that it has a bad impact on their health. Usually, school children like to choose their snacks without knowing in advance the ingredients contained in the snack (Suci, 2009).

Surveillance data on extraordinary events of food poisoning in 2017 there were 110 incidents. Based on the type of food that causes food poisoning, snacks contribute to poisoning cases of about 13 incidents with a percentage of 24.53%. Based on where it occurs, educational institutions rank second (28.30%) after residence (47.17%) cases of food poisoning in Indonesia. Snack food sold in educational institutions needs to be a concern because it is still found to be the cause of food poisoning. To reduce the number of food poisoning, communication, information and education programs about good food safety practices are expected (BPOM, 2017).

In 2013 there were 7 types of food tested on the supervision of school children's snack food consisting of meatballs (before brewing/ served), jelly/gelatin/other gelatin products, ice drinks (ice mambo, lollipops, ice candles, ice cendol, mixed ice and the like), noodles (served/ ready to be consumed), colored drinks and syrups,

snacks (fried foods such as bakwan, fried tofu, cilok, sausages, batagor, empek-empek, lontong, *etc.*), snacks (crackers, chips, extrusion products and the like). Based on the examination of the least qualified food samples in a row are colored drinks/syrups, iced drinks, jelly/gelatin, and meatballs. The cause of the sample is not eligible, among others, because it uses hazardous materials that are prohibited for food, using food additives exceeds the maximum limit, contains heavy metal contaminants exceeding the maximum limit, and the quality of microbiological quality that does not qualify (Infodatin, 2014).

Food according to the Food and Agricultural Organization (FAO) is food and beverages prepared and sold by street vendors on the streets and in other public crowded places that are directly eaten or consumed without further processing or preparation. Aprilia (2011), proposed the term snack food is not far from the terms junk food, fast food, and street food because the term is part of the term snack food.

Snack foods often contain more carbohydrate elements and have less protein, vitamins, or minerals. Because of the nutritional incompleteness in snacks, then basically snack food can not replace breakfast or lunch. Children who eat a lot of food stomachs will feel fuller because of the dense calories that enter the body. While nutrients such as protein, vitamins, and minerals are still very lacking. The positive impact of snack food itself can replace the energy lost during school activities, while the negative impact of snack food is the onset of diarrhea and poisoning due to lack of guaranteed cleanliness (Khomsan, 2006).

School children who are less guaranteed health can potentially cause poisoning, indigestion and if it lasts a long time will lead to poor nutritional status. In addition, unhealthy snacks can cause children's achievements in school to also be disrupted. Efforts to overcome these problems are not enough only through the theory presented but educational media are needed that play an important role to make children better understand how to choose healthy snacks in school in everyday life (Suci, 2009).

Research by Iklima (2017) on the picture of snack food selection in elementary school-aged children concluded that from four indicators of snack food selection studied, namely food-related elections, personal-related elections, socio-economic elections, and elections-related to the availability of snack food in schools, the results were obtained that the selection of snack food conducted by students in the school was in an election that was not good with the percentage of elections. Good (42%) and not good (57.3%).

Azzahra Maulia Miranti (2020) in the literature study of knowledge, pocket money, and availability of snack food-related to the selection of snack food in elementary school students concluded that there is a relationship between knowledge, pocket money, and availability of snack food affects the selection of snacks elementary school students evidenced by several studies have a value of food <0.05 . The amount of pocket money also affects the selection of school children's snack food and the availability of snack food in the school environment affects the selection process of snack food.

This snack habit is influenced by food-related factors, personal characteristics (knowledge of snacks, intelligence, perception, and emotions), and environmental factors (Aprillia, 2011). Health education plays a role in changing a person's health behavior as a result of learning experiences.

Based on initial observations conducted by researchers in East Wongkaditi Village, North City District of Gorontalo City, through interviews conducted on 10 students from a total of 33 students, class V SDN No.98 the North City of Gorontalo City, it was obtained that 5 out of 10 students would rather buy snacks at school than bring food from home. Especially if they don't have breakfast from home. This has been their habit since they were in the 1st grade. Their reason is that snack food is better and more taste. Before the bell sounded the class entrance sign and at the break, based on interviews with elementary school teachers No. 98 North City of Gorontalo City found that students buy snacks not only during recess, but at times before entering the class, some students have gathered in front of hawkers such as siamay, nuggets, and stalls were selling drinks with various colors and flavors.

Students' lack of knowledge about healthy snacks can be anticipated by providing health education. Health education can be provided with the latest innovations, namely by using PAIKEM methods (Active Learning, Innovative, Creative, Effective, and Fun). This learning model uses a medium of learning ladder snake games that contain elements about health education so that school-age children can learn about health education by relaxing, interesting and they can easily understand about health education about healthy snacks provided (Rohmadhanningtyas, 2013).

Based on the description above, researchers are interested in conducting research on "The Effect of PAIKEM Methods on Knowledge Level About Healthy Snacks in Students of Class V In SDN No.98 the North City of Gorontalo City". In an effort to increase students' knowledge of healthy snacks.

II. RESEARCH METHODS

The research design used in this study uses a pre-experimental research design (one group pre-post test design) which is a group of subjects observed before intervention with pre-test and after intervention with a post test. The instrument that will be used in this study is a questionnaire sheet containing a question of 25 numbers

quoted from Purtiantini (2010) which is used to measure respondents' knowledge before and after treatment, the correct answer is given a value of 1 and the wrong answer is given a value of 0.

Research Location in SDN No. 98 North City of Gorontalo City from August to November 2021. The population in the study was all V-grade students in SDN No.98 North City of Gorontalo City. Sampling techniques use total sampling. The number of samples in the study was 30 respondents.

Data collection using primary data and secondary data. The primary data in this study was through a questionnaire sheet containing questions related to the purpose of the study. Secondary data was obtained by researchers from SDN school No.98 North City of Gorontalo City. Data processing is done manually and electronically using calculators and computerization with statistical data processing programs, with the following steps: Editing, Coding, Data entry, Data cleaning. The processed data is presented in the form of tables and narratives to discuss the results of the study.

III. RESULTS AND DISCUSSIONS

Results

The study was conducted from August to November 2021. The sample in this study amounted to 30 people, the results of the study are as follows:

1. Characteristics of Respondents

a. Distribution of Frequency of Respondents By Gender in SDN No.98 City North of Gorontalo City

Table 1. Distribution of Frequency of Respondents by Gender in SDN No.98 North City of Gorontalo City

Gender	Frequency	Percentage (%)
Man	14	47
Woman	16	53
Total	30	100

Source: Primary Data

b. Distribution of Frequency of Respondents Based on Father's Work in SDN No.98 North City of Gorontalo City

Table 2. Distribution of Frequency of Respondents Based on Father's Work in SDN No.98 Northern City of Gorontalo City

Father's Job	Frequency	Percentage (%)
Entrepreneur	6	20
Bentor Driver	6	20
Government Employee	4	13
Day Laborer	3	10
Merchant	6	20
Employee	2	7
Teacher	2	7
Unemployment	1	3
Total	30	100

Source: Primary Data

c. Distribution of Frequency of Respondents based on maternal work in SDN No.98 North City of Gorontalo City

Table 3. Distribution of Frequency of Respondents based on maternal work in SDN No.98 Northern City of Gorontalo City

Mother's Job	Frequency	Percentage (%)
Housewife	17	57
Merchant	6	20
Government Employee	4	13
Employee	2	7
Unemployment	1	3
Total	30	100

Source: Primary Data

2. Univariate Analysis

- a. Knowledge of Respondents Before the intervention of PAIKEM method in SDN No.98 North City of Gorontalo City

Table 4. Knowledge of respondents before being given PAIKEM method intervention in SDN No.98 North City of Gorontalo City

Knowledge	Frequency	Percentage (%)
Good	21	70
Enough	9	30
Total	30	100

Source: Primary Data

In the table above, you can see there are 2 categories of respondent knowledge, namely good and sufficient. For questionnaire answers shared before the PAIKEM method, there were 21 respondents or 70% were in the good knowledge category and 9 respondents or 30% were in the sufficient knowledge category. It can be concluded that most knowledge categories obtained from respondents' answers are good.

- b. Respondent's Knowledge After PAIKEM method in SDN No.98 North City of Gorontalo City

Table 5. Knowledge of respondents after being given PAIKEM method intervention in SDN No.98 Northern City of Gorontalo City

Category	Frequency	Percentage (%)
Good	30	100
Enough	0	0
Total	30	100

Source: Primary Data

In the table above, you can see changes from the previous table. For questionnaire answers shared after the PAIKEM method, there were 30 respondents or 100% in the category of good knowledge and no respondents with sufficient knowledge categories.

3. Bivariate Analysis

For bivariate analysis is done using the McNemar test. The McNemar test is used to test for differences or changes in the proportion of two related populations that have only two categories. This test is widely used to find out if there is a difference in proportion before and after a particular sample group is treated, where the sample group member is control of himself.

Table 5. Before and After

Before	After	
	Enough	Good
Enough	0	9
Good	0	21

Source: Primary Data

The table above shows that there are 9 Respondents who before the PAIKEM method was in the category enough then changed to a good category after the PAIKEM method was done. While 21 respondents remained in the category both before and after the PAIKEM method.

Table 6. Test Statistics^a

	Before and After
N	30
Exact Sig. (2-tailed)	,004 ^b

a. McNemar Test

b. Binomial distribution used.

The table above shows the results of sig. (2-tailed) is worth 0.004 or less than 0.05. So it can be concluded that there is an influence on the PAIKEM Method on the Level of Knowledge About Healthy Snacks in Students of Class V in SDN No.98 the North City of Gorontalo City.

Discussions

1. Respondent's Knowledge Before PAIKEM method in SDN No.98 North City of Gorontalo City.

Based on the results of research before the PAIKEM method intervention showed that respondents in SDN No. 98 north of Gorontalo city have a good knowledge category of 21 people (70%) and the knowledge category is enough as many as 9 people (30%).

According to the researchers' assumption that the PAIKEM method is influenced by various factors such as external factors and internal factors. External factors include learning media, teachers, materials, learning methods, and learning systems, while internal factors are factors from within such as health, mental, intelligence level, interests, and so on.

PAIKEM is a learning model that allows learners to do diverse activities to develop skills and understanding, namely with varied learning. In the learning process must be applied variations of methods, variations in strategies, variations in media, and variations in learning resources can affect the thinking and critical thinking of learners.

According to Warsono and Haryanto (2013) research, PAIKEM can condition students to always do a meaningful learning experience and always think about what they can do during learning. Active learning involves students doing something and thinking about something they are doing.

In line with the theory mentioned by Charles C. Bonwell and J.A. Eison (1911) active learning is a process that provides opportunities for students to engage in higher-order thinking processes such as analyzing, synthesizing, and evaluating. Where a teacher should be able to create such an atmosphere that students actively ask questions, and also come up with ideas.

2. Respondent Knowledge After PAIKEM method in SDN No.98 North City of Gorontalo City

The results showed that after being given the PAIKEM method intervention, the results of PAIKEM method influence on that students' knowledge of healthy snacks increased where the level of knowledge was 100%.

According to researchers, the increase in respondents' knowledge occurred because learning strategies using the PAIKEM method allowed students to learn by relaxing and the use of learning media with video playback and snake ladder games containing elements of health education made students able to easily understand the material provided.

The researcher's assumption is in line with the results of Ardi's research, 2018 on the effectiveness of PAIKEM learning methods towards improving the learning achievement of students of class X SMK Yapika Makassar where the result is that by applying PAIKEM learning methods known 8 students out of 13 students have completed learning and 5 students have not been completed. Results in the first cycle classically students have not completed the learning, because students who get a grade of > 65 only by 62% or 8 students, smaller than the desired completion percentage of 75%. This is because students still feel new to the learning methods used by teachers by applying the PAIKEM method.

IV. CONCLUSION

Based on the results of research on "Effect of PAIKEM Method on Knowledge Level of Healthy Snacks in Gorontalo City Elementary School Students", it can be concluded that the level of Knowledge about Healthy Snacks in Students of Class V in SDN No. 98 the North City of Gorontalo City before PAIKEM method is good knowledge 70% and knowledge is quite 30%. Knowledge Level on Healthy Snacks In Students of Class V in SDN No. 98 North City of Gorontalo City after PAIKEM method is 100% good knowledge. There

is an Influence of PAIKEM Methods On The Level of Knowledge about Healthy Snacks in Class V Students in SDN No. 98 North City of Gorontalo City with results from Sig. (2-tailed) is worth 0.004 or less than 0.05.

Some suggestions can be given from this research. For researchers themselves, may continue to develop insights into nursing science related to PAIKEM methods that are owned and can be applied in nursing practice in the future to increase student knowledge. For respondents, information about healthy snacks, especially in school-age children obtained through the PAIKEM method will provide benefits to students, so that the public will be able to take precautions against health problems that will be caused by ignorance about healthy snacks. And for educational institutions, the results of this study can be accepted and used as lecture material for students that the PAIKEM method is very effective in students to increase student knowledge.

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