



Balanced Eating Between Fast Food and Healthy Food for Better Nutritional Needs

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ABSTRACT

This study aims to determine the knowledge and understanding of elementary school students about nutritious food and fast food, as well as recommendations for balancing them. The method used is a quantitative method with an experimental research design. The intended target is elementary school students in grade 5. The subject is 20 students in one class. The research was carried out in 3 stages, (i) pre-test, (ii) education using lecture and picture methods about fast food and healthy food, and the last one was (iii) post-test were the questions given were the same questions as the pre-test. After being educated about healthy nutritious food and fast food, the results showed quite different results from the previous results, which increased by 9% from 71.25 to 81.25%. The ineffectiveness of this method was influenced by the pretest scores of respondents which are already large enough. Thus, the increase is not so large. With the results obtained from the research that has been carried out, it is hoped that school-age children can be better informed about the importance of a balanced intake of healthy food and fast food consumed by children.

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1. INTRODUCTION

Food is one of the basic human needs that serves as a support for growth and development. Nutrients are chemicals contained in food and are needed by the body to maintain health and endurance (Williamson, 2016). Nutrition is one of the important components in supporting the continuity of the process of growth and development of children (Schwarzeberg *et al.*, 2018). Foods that contain nutritious elements must be accompanied by efforts to maintain the cleanliness and health of people who want to eat them. With the development of the times, the food consumed by society is increasingly diverse. Fast food is any type of food that can be served quickly, including food sold in restaurants. Therefore, the nutrients in the body become unfulfilled. The composition of food to meet the needs of the body needs to be balanced both in quality and quantity, so the body will get the best nutritional health conditions (Sediaoetama, 2006).

In this regard, it is known in previous studies that the optimal growth and development of school-age children depends on the provision of nutrients with the right quality and quantity. During this period of growth and development, the provision or intake of nutrients to children cannot always be carried out perfectly. This deviation results in disturbances in many organs and systems of the child's body. This needs attention, especially in schools. Children's appetite decreases and if it lasts a long time, it will affect the nutritional status of children.

The group of school children (7-13 years) is a group of children who are vulnerable to nutrition or are the people who are most prone to suffering from nutritional disorders if the community is exposed to a shortage of food supplies. In general, this group is associated with a relatively rapid growth process, because at school age children require relatively large amounts of nutrients (Sediaoetama, 2004).

Knowledge of school-age children about nutritious food has not been realized. Need to be directed to recognize the nutritional needs of the body and how to implement a healthy lifestyle (Goenawan, 2018). Due to the large number of vendors serving fast food, encourages people to buy food outside rather than preparing nutrient-rich food at home. Fast food is certainly not forbidden to eat, but there needs to be educated about the limitations of consuming it. Therefore, school-age children are given more knowledge on how to maintain their portion sizes between nutritious food and fast food. The frequency of consumption of fast food also can be influenced by social status. Important components that influence healthy food choices are nutritional knowledge and attitudes.

2. METHODS

Research design is a design used by research as a guide in planning and implementing research to achieve a goal or answer a research question.

2.1. Presentation of the wastewater treatment plant

The samples used as research samples were elementary school children in grade 5 at SDN Hanjuang Samijaya, Cihanjuang Village. The sample consisted of 20 students consisting of 8 male students and 12 female students. The following is the percentage of 5th-grade students at SDN Hanjuang Samijaya.

2.2. Wastewater and industrial water purification processes in the station

Data collection is done by distributing questions that aim to find out the extent of students' understanding of healthy food and fast food (see **Table 1**). The first stage is a pre-test by giving question papers that contain 20 statements and 2 answer choices, between 'Yes' and 'No'.

Health education media is one of the components of the learning process that will support the other components. Question sheets were collected and students were given an explanation using the lecture method and power points about the types, and benefits of healthy food and fast food. There is one way to overcome to make children consume foods that contain high nutritional value is to create these foods into interesting forms for children.

The explanation is accompanied by an approach to students with various general questions regarding students' daily consumption habits. After being explained, the students were again given questions containing the same questions as the beginning. In the questions, there are self-statements such as 'I often eat healthy foods. Each question is given 1 point for a correct answer and 0 for an incorrect answer.

Table 1. Pre-Test and post-test questions.

No.	Question	Yes	No
1.	I know what healthy food is.		
2.	I often eat healthy food.		
3.	I know what fast food is.		
4.	Not all fruits are good for consumption in the morning.		
5.	Green vegetables contain lots of B vitamins.		
6.	One of the benefits of carrots is that they can reduce the risk of developing eye diseases.		
7.	Pisang goreng (fried banana) can be used as a substitute for rice.		
8.	Boiled eggs have more fat than fried eggs.		
9.	Fish is healthy food.		
10.	Sweet foods are not harmful even if consumed in large quantities.		
11.	Healthy and nutritious food do not have to be consumed every day.		
12.	Fast food is very dangerous for the body if consumed too often.		
13.	I often eat the fruit in a week.		
14.	Meat and eggs are examples of healthy nutritious foods.		
15.	Eggs should not be consumed too much and too often.		
16.	Often consuming fried rice is the same as consuming white rice.		
17.	Consuming fruits and vegetables can boost immunity.		
18.	Instant noodles have the same carbohydrate content as rice.		
19.	Eating instant noodles along with rice is recommended because they contain more carbohydrates.		
20.	French fries can be used as a substitute for rice.		

2.3. Analysis of N-Gain value

Table 2 is a Test Normalized gain (N-Gain) table that was carried out to determine the increase in students' cognitive learning outcomes after being given treatment. This increase was taken from the pre-test and post-test obtained by students. Normalized gain or abbreviated as N-Gain is a comparison of the actual gain score with the maximum score.

3. RESULTS AND DISCUSSION

Table 3 shows the results of the gain value analysis. The calculation of the gain value is carried out to show the quality of increasing skills possessed by each respondent after an action is taken. Based on the table, it is known that the average value of N-Gain is 0.32 (32%), indicating that the methods used are not effective enough to improve students' understanding. With a minimum score of N-Gain 0 (no change) and a maximum of 0.75 (75%). The results show the ineffectiveness of this method is influenced by the pre-test scores of respondents which are already large enough so that the increase is not so large.

Table 2. Table of Gain analysis pre-test and post-test.

No.	Name	Score		Post-Pre	Ideal Score (100)-pre	N-Gain	N-gain Score (%)
		Pre	Post				
1	S1	75.00	85.00	10	25	0.40	40.00
2	S2	70.00	75.00	5	30	0.16	16.66
3	S3	60.00	90.00	30	40	0.75	75.00
4	S4	70.00	80.00	10	30	0.33	33.33
5	S5	70.00	85.00	15	30	0.50	50.00
6	S6	65.00	75.00	10	35	0.28	28.57
7	S7	75.00	75.00	0	25	0.00	0.00
8	S8	70.00	80.00	10	30	0.33	33.33
9	S9	70.00	85.00	15	30	0.50	50.00
10	S10	60.00	65.00	5	40	0.12	12.50
11	S11	80.00	85.00	5	20	0.25	25.00
12	S12	80.00	85.00	5	20	0.25	25.00
13	S13	80.00	85.00	5	20	0.25	25.00
14	S14	80.00	90.00	10	20	0.50	50.00
15	S15	70.00	75.00	5	30	0.16	16.66
16	S16	80.00	90.00	10	20	0.50	50.00
17	S17	70.00	85.00	15	30	0.50	50.00
18	S18	70.00	75.00	5	30	0.16	16.66
19	S19	80.00	85.00	5	20	0.25	25.00
20	S20	70.00	75.00	5	30	0.16	16.66
		72.25	81.25			0.32	32.00

Table 3. Analysis of Pre-Test and Post-Test Gain Values

No	Name	Score		N-Gain	Category
		Pre-Test	Post-Test		
1	S1	75	85	0.40	Currently
2	S2	70	75	0.17	Low
3	S3	60	90	0.75	Tall
4	S4	70	80	0.33	Low
5	S5	70	85	0.50	Currently
6	S6	65	75	0.28	Low
7	S7	75	75	0.00	No Upgrade
8	S8	70	80	0.33	Currently
9	S9	70	85	0.50	Currently
10	S10	60	65	0.13	Low
11	S11	80	85	0.25	Low
12	S12	80	85	0.25	Low
13	S13	80	85	0.25	Low
14	S14	80	90	0.50	Currently
15	S15	70	75	0.17	Low
16	S16	80	90	0.50	Currently
17	S17	70	85	0.50	Currently
18	S18	70	75	0.17	Low
19	S19	80	85	0.25	Low
20	S20	70	75	0.17	Low
Average		72.25	81.25	0.32	
Min		60	65	0.00	
Max		80	90	0.75	

Figure 1 showed that all respondents' results have increased from each question indicator. If seen from these results, the use of animated media can still be used in conveying material to the public even though in this study it does not have a high level of effectiveness. The lecture method plus animated images as an educational medium for learning the balance of healthy food and fast food for grade 5 elementary school students, is enough to increase understanding, although only by 9%.

Table 4 shows the results of the analysis *t-Test: Paired Two Sample for Means*. Pre-Test shows the value of 72.25 as the average of 20 data that has been processed. In addition, the Post-Test score has an average value of 81.25 (Table 4). The average t-test of two paired samples shows that the T-count (-6.28) is smaller than the T-table (1.72) showing the T-count < T-table, which means that the increase in student scores does not increase significantly.

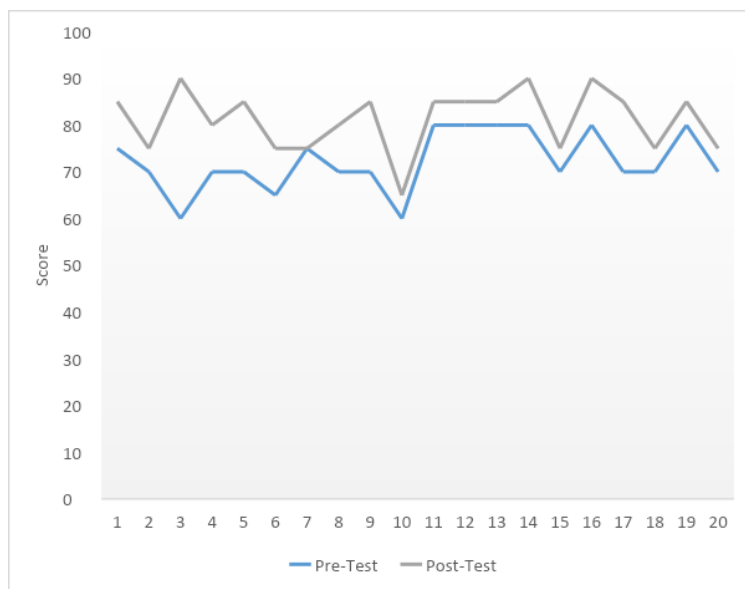


Figure 1. Graph of pre-test and post-test results

Table 4. t-Test: paired two samples for means.

	<i>Pretests</i>	<i>Posttest</i>
mean	72.25	81.25
Variance	40.72	44.40
Observations	20	20
Pearson Correlation	0.51	
Hypothesized Mean Difference	0	
df	19	
t Stat	-6.28	
P(T<=t) one-tail	2.48 . 10 ⁻⁶	
t Critical one-tail	1.72	
P(T<=t) two-tail	4.96 . 10 ⁻⁶	
t Critical two-tail	2.09	

Based on each analysis that has been carried out, it can be seen that the provision of education through lectures and media images has quite a positive result in increasing the grades of students at SDN Hanjuang Samijaya, Cihanjuang Village, Parongpong, Indonesia. Even so, according to the results of the t-test, the effectiveness of providing pictorial media was not significant. Consumption of balanced nutritional foods is necessary to increase immunity, keep the body's production, and reduce the risk of contracting infectious diseases.

The research that has been conducted aims to determine the understanding of school-age children regarding the balanced consumption of healthy food and fast food at the Hanjuang Samijaya State Elementary School, Cihanjuang Village, Parongpong, Indonesia. The results of this study indicate an increase in the average value of 9% where the average initial value is 72.25 increasing to 81.25. The n-Gain calculation is done to determine the effectiveness of the actions taken. The results show that the average value of N-Gain is 32% (N-Gain < 40%) which means the education or socialization that has been carried out through the media of images and the lecture method has not been effective enough to be applied. Fast food consumption patterns are not the main factors for hypertension, but exercise and stress levels are the dominant factors for hypertension (Wang *et al.*, 2018; Rahmawati, 2014).

4. CONCLUSION

This study intends to ascertain primary school kids' knowledge and comprehension of wholesome foods and fast food, as well as suggestions for balancing them. The results showed considerably different outcomes from the prior results, which increased by 9% from 71.25 to 81.25% after being informed about healthy nutritious food and quick food. Because the pretest scores of the responders are already sufficiently high, this strategy was ineffectual. The growth is therefore not significant. With the help of the research's findings, it is hoped that school-age children will be better informed about the value of a balanced diet that includes both good foods and fast food.

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6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

7. REFERENCES

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