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The Effect of Nutrition Education on Knowledge and Practice of Bringing a Balanced Menu to Elementary School Children in Gonting Julu, Huristak District, Padang Lawas Regency in 2021

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ABSTRACT

School age (ages 5 to 14 years), is a period of rapid growth and development, increasing physical activity such as playing, exercising or helping parents at work. Good nutritional intake in terms of quantity and quality is needed so that children's growth and development can be optimal. The diet of school-age children tends to be high in snacks and low in fruits and vegetables. The purpose of the study was to determine the Effect of Nutrition Education on Knowledge and Practice of Bringing a Balanced Menu to Elementary School Children in Gonting, Huristak District Padang Lawas Regency in 2021. This type of research is Quasy Experiment with a pre-experimental design with One Group Pretest Posttest design, the population in this study is all elementary school children in grades V and VI as many as 123 people, the sampling technique is purposive sampling, data is taken using a questionnaire and analyzed by paired test t-test The results of the study were that the majority of elementary school children lacked knowledge of 17 people (56.6%), after being given health education about nutrition, 18 people (60.0%), paired t-test results were given p = 0.002 (<0.005), while before given health education, elementary school children still rarely brought rice as many as 20 people (66.6%) and after it was done it increased to often bring rice as many as 24 people (80.0%) the results of the paired t-test test were p = 0.000 (<0.005). Based on the results of the study, it can be concluded that there is an influence of nutritional education on knowledge and practice of bringing a balanced menu to elementary school children in Gonting, Huristak District,

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1. Introduction

School age (ages 5 to 14 years), is a period of rapid growth and development. At this age, physical activity continues to increase, such as playing, exercising or helping parents at work. Good nutritional intake in terms of quantity and quality is needed so that children's growth and development can be optimal. Provision of nutrition at this age usually does not run perfectly, because many environmental factors greatly affect the behavior of food.The diet of school-age children tends to be high in snacks and low in fruit and vegetables (Almatsier et al., 2011).

according to World Health OrganizationNutritional problems in elementary school children are currently still quite high, with basic Health Research data (RisKesdas, 2013) it was found that the nutritional status of children aged 5-12 years (according to BMI/U) in Indonesia, namely the prevalence of underweight was 11.2%, consisting of 4% percent are very thin and 7.2% are thin. While the problem of obesity in children in Indonesia is still high with a prevalence of 18.8%, consisting of 10.8% fat and 8.8% very fat (obesity), where the prevalence of short is 30.7% of which 12.3% is very short and 18.4% short. Health problems are veryinfluenced by the socio-economic level of society. Since the monetary crisis, the number of poor people has increased drastically to reach 30.77% in 2018. The World Health Organization (WHO) in 2020 reported that the prevalence of thinness in children in the world was

around 14.3% with the number of children experiencing thinness as many as 95.2 million. children (WHO, 2020).

Basic Health Research Data (Riskesdas) in 2020 shows that 41.2% of school-age children in Indonesia consume energy below the minimum requirement, which is <70% of the Nutrition Adequacy Rate (RDA). This condition can have an impact on the occurrence of wasting in children. Based on Riskesdas in 2013, 11.2% of children aged 5–12 years in Indonesia experienced wasting. In addition to wasting, the prevalence of obesity in children aged 5-12 years is also quite high, at 18.8%. West Java Province, has a prevalence of overnutrition and undernutrition in children aged 5–12 years of 18.6% and 9.1%, respectively. The prevalence in Bogor Regency is 17.2% and 7.8%, respectively. This proves that Indonesia is still facing a double nutritional burden (Kemenkes RI, 2020).

Meanwhile, according to the 2019 North Sumatra Riskesdas data, in Deli Serdang Regency the percentage of the population 10 years who does not eat vegetables and fruit is at 95.2%. This condition is in line with the findings of the Individual Food Consumption Survey (SKMI) in the 2019 Total Diet Study (SDT) that the population's consumption of vegetables and fruit and all their processed products is still low (Balitbangkes, 2019). Nutritional problems in elementary school children usually begin with a lack of energy and protein intake below the minimum requirement. In addition, the prevalence of eating less fruit and vegetables is still relatively high, physical activity is still relatively low (Riskesdas, 2017). One way to reduce nutritional problems is with balanced nutrition guidelines. Balanced nutrition guidelines are compiled to perfect 4 healthy 5 perfect.Dwiriani, 2012). Guidelines for balanced nutrition need to be introduced to children. One way that can be done is through nutrition education. The results of the research by Februhartanthy (2015) prove that nutrition education for school-age children is effective in changing knowledge and attitudes towards food.

Research conducted by Amalia et al. (2012) showed that the snacks most often consumed by school children were fried foods, drinks, and cakes, while fruit was consumed with low frequency.Research conducted by Nuryanto (2014) regarding the description of energy intake, parental income level and nutritional status of school children in underprivileged families in Biringkanaya District, Makassar City shows that there are 9.09% thin, 25% normal, and 2.28% overweight. However, Putri Rinita Harahap's research (2018) only examined energy intake, while the fulfillment of other nutritional intakes related to nutritional elements such as carbohydrates, vitamins, minerals, fat, protein and water has not been carried out. So further research should be done.

School-age children are easier to change behavior than adults. The nutrition education provided is expected to increase the knowledge of elementary school age children regarding balanced nutrition guidelines. Knowledge will influence the attitude and practice of balanced nutrition in daily life. The practice of balanced nutrition is expected to reduce nutritional problems among children. This can be seen from the children's daily eating practices. One of the efforts to monitor children's eating practices is the school feeding program. School feeding has been implemented and observed in developed countries. Indonesia has not implemented school feeding in all schools, so nutrition practices are observed from the balanced menu that children bring to school. Education on balanced nutrition guidelines for school children is carried out so that they can print the nation's next generation of quality. It is also important to instill a new paradigm to replace the 4 healthy 5 perfect paradigm which is no longer in accordance with the current problems. The paradigm is a balanced nutrition guide that must be practiced in everyday life.

Results of the preliminary survey conducted At SD Negeri Gonting, Huristak District, Padang Lawas Regency, in grade 6 there were 74 students, who brought rice 49 people, there were 5 people who saw the food with side dishes, 1 person used omelette added chili, 1 person with fish sauce with cucumber, 1 person with fish sauce salted and potatoes, 1 person canned dencis fish curry, 1 person gren fish, tempeh, boiled vegetables, the results of the interview have not been obtained knowing the nutritional content of foodstuffs, the benefits of vegetables and fruit and they said that snacks were not allowed at school.

2. Method

This type of research is Quasy Experiment with a pre-experimental design with One Group Pretest Posttest design,The population in this study is all 123 elementary school children grades V and VI as many as 123 people, the sampling technique is purposive sampling, the data is taken using a questionnaire and analyzed by paired t-test

3. Results and Analysis

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3.1 Research result

a. Overview of Research Site

This research was conducted at the elementary school in Gonting Juluvillagewhich is in the districtHuristak, districtOld Field, provinceNorth Sumatra,Indonesia. Huristak District is a sub-district that was divided from Barumun Tengah District, Padang Lawas District, Huristak District was inaugurated based on PP No. 129 of 2000 there are several things that are the goal of forming a new region or doing regional expansion. These goals include improving people's welfare, improving public services, accelerating democratic growth, accelerating the implementation of regional economic development, accelerating the processing of regional potential, increasing security and order, increasing harmonious relations between the center and the regions by becoming an autonomous region, so that public services become closer. and has an administrative location in the Huristak District bordering:

1) To the north, it is bordered by Simangambat and Halongonan sub-districts, Huta Raja Tinggi sub-district and Barumun Tengah sub-district.
2) To the south, it is bordered by Riau Province
3) In the east, it is bordered by Riau Province
4) In the west, it is bordered by Padang Bolak District.

b. Demographic Data

In this study, the demographic data on the respondents were Elementary School Children in Gonting, Huristak District, Padang Lawas Regency in 2021

Table 1

Frequency Distribution of Demographic Data Elementary School Children in Gonting, Huristak District, Padang Lawas Regency in 2021

No	Demographic Data	Frequency	Percentage (%)
1	Gender		
	Man	11	36.6
	Woman	19	63.3
	Amount	30	100
2	**y educationMom finished**		
	SD	4	13.3
	junior high school	10	33.3
	senior High School	9	30.0
	PT	7	23.3
	Amount	30	100
3	**Mother's work**		
	IRT	18	60.0
	entrepreneur	7	23.3
	civil servant	5	16.6
	Amount	30	100

Based on table 1, it can be explained that of the 30 respondents, the majority 19 women (63.3%), parents' education in SMP was 11 people (36.6%) and mother's occupation as IRT was 18 people (60.0%).

c. Frequency Distribution Knowledge of Elementary School Children in Gonting, Huristak District, Padang Lawas Regency in 2021

Table 2

Frequency Distribution Knowledge of Elementary School Children in Gonting, Huristak District, Padang Lawas Regency in 2021

No	Knowledge	Before		After	
		F	%	f	%
1	Good	3	10.0	18	60.0
2	Enough	10	33.3	12	40.0
3	Not enough	17	56.6	0	0.0
	Amount	30	100	30	100

Based on table 2 shows that the knowledge of elementary school children before being given health education About nutrition the majority of elementary school children's knowledge is less as much as 17 people (56.6%), after being given health education About nutrition the majority of elementary school children have good knowledge of 18 people (60.0%).

d. The Effect of Nutrition Education on Knowledge of Elementary School Children in Gonting, Huristak District, Padang Lawas Regency in 2021

Table 3

The Effect of Nutrition Education on Knowledge of Elementary School Children in Gonting, Huristak District, Padang Lawas Regency in 2021

	mean	Mean Difference	Standard Deviation	t	df	P
Pre	1.48	0.38	1.333	3.28	19	0.002
Post	1.86					

The results of the analysis using the paired t-test showed that the knowledge of elementary school children before and after health education about nutrition was obtained t(df) = 3.28(19), M difference = 0.38, SD difference = 1.333 and p value = 0.002 . p value <0.05, it can be concluded that H0 is rejected and Ha is accepted which means there isThe Effect of Before and After Nutrition Education on Knowledge of Elementary School Children in Gonting, Huristak District, Padang Lawas Regency in 2021.

e. Frequency Distribution The Practice of Bringing a Balanced Menu to Elementary School Children in Gonting, Huristak District, Padang Lawas Regency in 2021

Table 4

Frequency Distribution The Practice of Bringing a Balanced Menu to Elementary School Children in Gonting, Huristak District, Padang Lawas Regency in 2021

No	Practice Bringing a Balanced Menu	Before		After	
		F	%	f	%
1	Often	10	33.3	24	80.0
2	Seldom	20	66.6	6	20.0
	Amount	30	100	30	100

Based on table 4 show that The practice of Bringing a Balanced Menu to Elementary School Children in Gonting, Huristak District, Padang Lawas Regency before being given health education about nutrition is still rare as many as 20 people (66.6%) and after Health Education About nutrition increased to frequent as many as 24 people (80.0%)

f. The Effect of Nutrition Education on the Practice of Bringing a Balanced Menu to Elementary School Children in Gonting, Huristak District, Padang Lawas Regency in 2021

Table 5

The Effect of Nutrition Education on the Practice of Bringing a Balanced Menu to Elementary School Children in Gonting, Huristak District, Padang Lawas Regency in 2021

mean		Mean Difference	Standard Deviation	t	df	P
Pre	1.44	0.48	0.241	3.01	17	0.000
Post	1.92					

The results of the analysis using the paired t-test showed The Practice of Bringing a Balanced Menu to Elementary School Children after health education about nutrition obtained t(df)= 3.01(17), M difference = 0.48 Difference SD= 0.241and p value = 0.000. p value <0.05, it can be concluded that H0 is rejected and Ha is accepted which means there isThe Effect of Nutrition Education on the Practice of Bringing a Balanced Menu to Elementary School Children in Gonting, Huristak District, Padang Lawas Regency in 2021

3.2 Discussion

a. The Effect of Nutrition Education on Knowledge of Elementary School Children in Gonting, Huristak District, Padang Lawas Regency in 2021

Based on the research above shows that the knowledge of elementary school children before being given health education About nutrition the majority of elementary school children's knowledge is lacking and after being given health education About nutrition the majority of elementary school children's knowledge is good. After being given nutrition education, the subject's knowledge increased. Research conducted by Dwiriani (2017) revealed that increasing knowledge scores after a nutrition education intervention did not necessarily improve the subject's eating practices. The results of the analysis using the paired t-test showed that the knowledge of elementary school children before and after health education about nutrition was obtained t(df) = 3.28(19), M difference = 0.38, SD difference = 1.333 and p value = 0.002 . p value <0.05, it can be concluded that H0 is rejected and Ha is accepted which means there isThe Effect of Before and After Nutrition Education on Knowledge of Elementary

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School Children in Gonting, Huristak District, Padang Lawas Regency in 2021.

The results of the paired sample t-test show that there is a difference in knowledge scores between the pre-test and post-test. Another similar study gave similar results, namely the study of Zulaekah (2012) which showed an increase in knowledge after the intervention using animation media and booklets. Research conducted by Marisa & Nuryanto (2014) on elementary school children in Semarang also showed an increase in knowledge after being given nutrition education with balanced nutrition comics. Nuryanto, et al. (2014) conducted a nutrition education intervention in 2 elementary schools in Semarang and showed results that affected the knowledge of elementary school children about balanced nutrition. Based on the education level data, most parents graduated from junior high school. Mother's education is closely related to the nutritional status of children (Abuya, et al., 2012). Mothers have an important role in providing and serving food for families, especially children. Judging from the type of work the mother does not work . Mothers who do not work have adequate time to interact with children, so as to improve the quality of maternal services (Pahlevi, 2012).

b. The Effect of Nutrition Education on the Practice of Bringing a Balanced Menu to Elementary School Children in Gonting, Huristak District, Padang Lawas Regency in 2021

Based on research results show that shows that The practice of Bringing a Balanced Menu to Elementary School Children in Gonting, Huristak District, Padang Lawas Regency before being given health education about nutrition is still rare and after being given Health Education About Nutrition, Practice Bringing a Balanced Menu increased to frequent The results of the analysis with the paired t-test showed The Practice of Bringing a Balanced Menu to Elementary School Children after health education about nutrition obtained t(df)= 3.01(17), M difference = 0.48 Difference SD= 0.241and p value = 0.000. p value <0.05, it can be concluded that H0 is rejected and Ha is accepted which means there isThe Effect of Nutrition Education on the Practice of Bringing a Balanced Menu to Elementary School Children.

As for the menu brought by the subject is rice with fried noodles, fried rice, and rice with animal side dishes, such as fried chicken and omelette. And 5.8% subjects brought fruit and 55.4% subjects brought vegetables. This illustrates that the subject's practice of choosing a balanced menu has changed. Research results Proverawati, et al. (2018) showed that children tend to like foods rich in carbohydrates and animal protein. Protein is needed to help the process of child growth and development. The portion of rice that was brought did not match my dinner plate. Most of the subjects brought rice with a portion equal to the size of their lunch box. After being given a nutrition education intervention, there were 55.7% of subjects who brought a balanced menu according to the visuals of my plate of food.

In the nutrition education session, the speaker motivates the subjects to consume fruits and vegetables according to the recommended portion. Sinaga (2016) revealed that a strong motivation for the subject needs to be done so that there is an increase in fruit and vegetable consumption. Animal side dishes (73.1%) were consumed by subjects more than vegetable side dishes (21.2%). A total of 15.4% of subjects brought and consumed vegetables in post-test 1. The portion of rice was more than the portion of vegetables. On average, the vegetables brought by the subjects were 1-2 spoonfuls of vegetables (20–25 g). The average serving of animal side dishes is 1 piece for fried chicken (45 g) and 1 omelet (55 g). xThe portion of fruit is 1 orange (55 g), 1 large papaya (110 g), and 1 Ambon banana (60 g).

Improved compatibility between the provisions that the subject brought with my Dinner Plate. Subjects who brought vegetables and fruit in a balanced menu also increased to 40.4% and 46.2%, respectively. A total of 82.7% of the subjects consumed animal side dishes. Some subjects still brought lunch with white rice and fried noodles on the menu. The portion of rice, vegetables, animal side dishes, and fruit brought by the subjects in post-test 2 was not different from the portion of lunch in post-test 1. Subjects started to bring vegetable side dishes with a portion of 2 tablespoons of tempeh oreg (22 g) and 1–2 cut into small pieces fried tofu and tempeh (25 g).

These results are in accordance with the research results of Mohammad & Madanijah (2015). The variety of lunch menus brought by the subjects increased from pre-test to post-test 3, but the number and portion of the menus had not improved. Nutrition education conducted by Owais, et al. (2017) for 2 years can improve the quality of diet in children under five in Bangladesh. Research Reinbott, et al. (2016) proved that nutrition education for 1 year can increase the consumption of foods rich in beta carotene as well as vegetables and fruit. Thus, the improvement in the number and portion of balanced menu supplies has not increased because the provision of nutrition education is too short. The school

provides a canteen to make it easier for students to buy food. The school canteen still provides snacks that are not diverse. There are no sellers of cut fruit or fruit juice in the school canteen. Based on observations, the school canteen sells food such as snacks such as various chiki, fried food, dumplings, batagor, cilok, and cold drinks (ice tea). This resulted in the subject less consumption of vegetables and fruit.

The balanced menu provided by the subjects fulfilled 20–25% of the total daily meal. This percentage is appropriate to complete the breakfast requirement of 25% (Khomsan, 2011). Subjects consumed a balanced lunch menu during their break after sports lessons were over, which was 10.30–11.00 WIB. presents the intake of nutrients from the provision of a balanced diet brought by the subject. The results of the paired sample t-test showed that there was a significant difference between the intake of energy, fat, carbohydrates, and fiber in the pre-test and post-test 1 ($p<0.05$). The level of protein adequacy of the subjects was high due to support growth. Animal protein is preferred over vegetable protein. Sources of animal protein are chicken, eggs, and fish. Based on research by Simanjuntak and Hartono (2010), the higher the protein consumption, the better the nutritional status of children.

3.3 Research Limitations

This study is a quasi-experimental research, so it has not been able to fully ascertain the effectiveness of the intervention given to changes in knowledge and attitudes of pregnant women, but in this study the researchers confirmed it statistically through testing with statistical tests. This study evaluates knowledge after the intervention is after 1 week, so that the process of absorption of knowledge in the treatment group tends to be varied, so the result of a long time can bias the information obtained.

4. Conclusion

Based on research results The Effect of Nutrition Education on Knowledge and Practice of Bringing a Balanced Menu to Elementary School Children in Gonting, Huristak District, Padang Lawas Regency in 2021as follows:

a. Nutrition Education Affects Knowledge of Elementary School Children in Gonting, Huristak District, Padang Lawas Regency in 2021
b. Nutrition Education Affects the Practice of Bringing a Balanced Menu to Elementary School Children in Gonting, Huristak District, Padang Lawas Regency in 2021
c. P value = 0.002. p value <0.05, it can be concluded that H0 is rejected and Ha is accepted which means there isThe Influence of Nutrition Education on Knowledge of Elementary School Children and p value = 0.000. p value <0.05, it can be concluded that H0 is rejected and Ha is accepted which means there isThe Effect of Nutrition Education on the Practice of Bringing a Balanced Menu to Elementary School Children in Gonting, Huristak District, Padang Lawas Regency in 2021

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