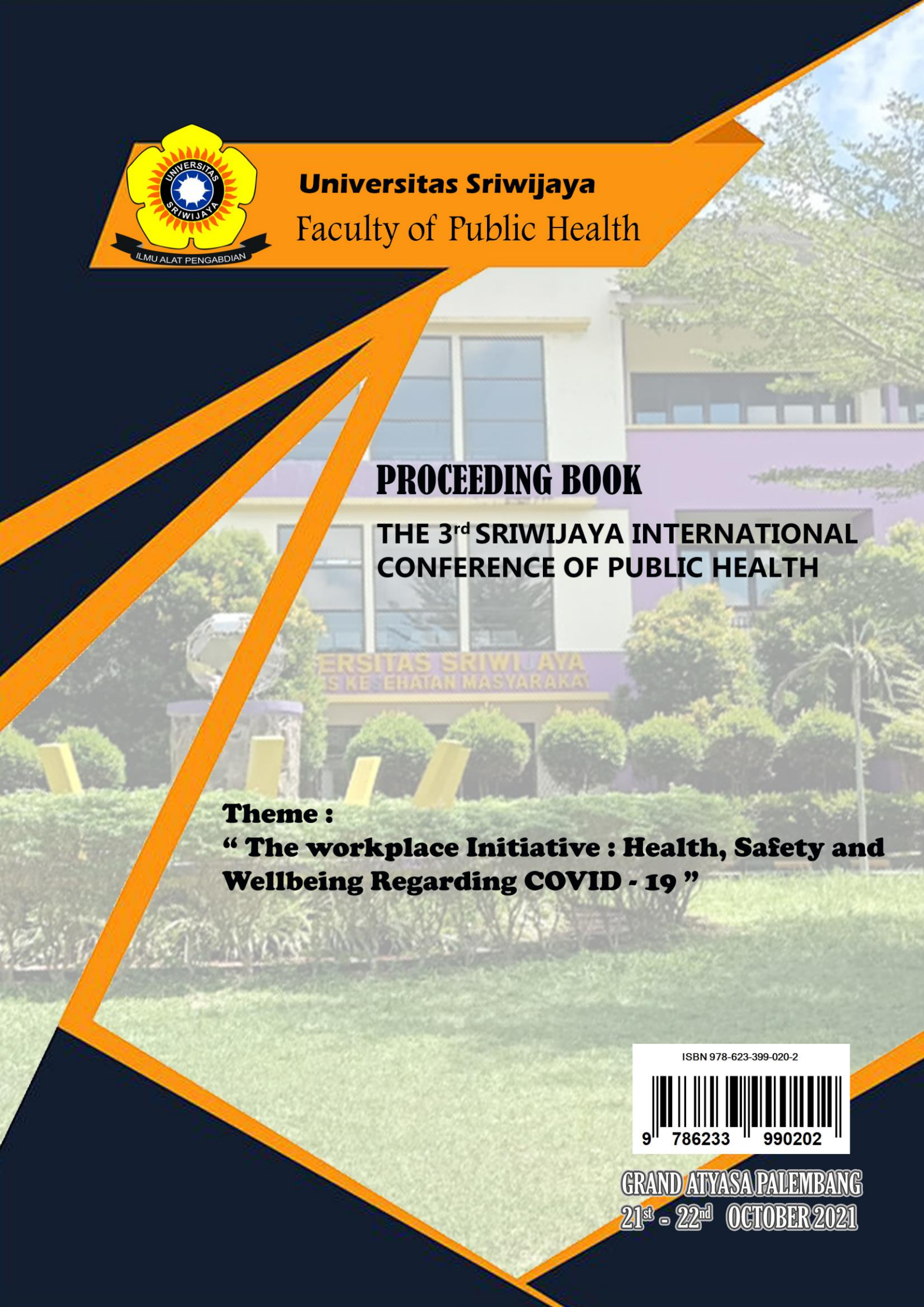

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" The workplace Initiative : Health, Safety and Wellbeing Regarding COVID - 19 "

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The Work Place Initiative: Health, Safety and Wellbeing Regarding COVID-19

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DETERMINANT FACTORS OF FRUIT AND VEGETABLE CONSUMPTION IN PRE-SCHOOL CHILDREN IN BABAT VILLAGE,PENUKAL ABAB LEMATANG ILIR REGENCY (PALI)

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ABSTRACT

Consumption of vegetables and fruit is very important in daily life, because vegetables and fruits function as regulatory substances in the body. Lack of consumption of fruits and vegetables can have an impact on a person's immune decline. One of the most vulnerable age groups if there is a lack of consumption of vegetables and fruit is the preschool age because this period is one of the important periods in the growth and development of children. The purpose of this study was to determine the determinants of fruit and vegetable consumption in pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) Regency. This research is a quantitative research with a cross sectional study design. Data were obtained through the questionnaire filling method for independent variables and for fruit and vegetable consumption using a food consumption survey method, namely food recall 2x24 hours. The results showed that the determinants of fruit and vegetable consumption in pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) Regency, it was found that the variable availability of fruit and vegetables at home (p value = 0.620), mother's knowledge (p value = 0.000), maternal education (p value = 0.000) family income (p value = 0.001), number of family members (p value = 0.085), peer influence (p value = 0.792. There is a significant relationship between mother's knowledge about nutrition (p value = 0.000), mother's education (p value = 0.000) and family income (p value = 0.001) and the most dominant factor is family income.

Keywords: *Pre-school children, fruit and vegetables*

ABSTRAK

Konsumsi sayur dan buah sangat penting didalam kehidupan sehari-hari, karena sayur dan buah berfungsi sebagai zat pengatur didalam tubuh. Kurangnya konsumsi buah dan sayur dapat berdampak pada penurunan kekebalan tubuhseseorang. Salah satu kelompok usia yang paling rentan jika kurang konsumsi sayur dan buah yaitu usia prasekolah karena masa ini adalah salah satu periode penting pada pertumbuhan dan perkembangan anak. Tujuan penelitian ini adalah untuk mengetahui faktor determinan konsumsi buah dan sayur pada anak pra sekolah di Desa Babat Kabupaten Penukal Abab Lematang Ilir (PALI). Penelitian ini merupakan penelitian kuantitatif dengan desain studi *cross sectional*. Data diperoleh melalui metode pengisian kuisioner untuk variabel independen dan untuk konsumsi buah dan sayur menggunakan metode survei konsumsi pangan yaitu *food recall* 2x24 jam. Hasil penelitian menunjukkan bahwa faktor determinan konsumsi buah dan sayur pada anak pra sekolah di Desa Babat Kabupaten Penukal Abab Lematang Ilir (PALI) didapatkan bahwa tidak ada hubungan yang signifikan antara ketersediaan buah dan sayur di rumah (*p value= 0,620*) , ada hubungan yang signifikan antara pengetahuan ibu (*p value=0,000*), ada hubungan yang signifikan antara pendidikan ibu (*p value=0,000*), ada hubungan yang signifikan antara pendapatan keluarga (*p value=0,001*), tidak ada hubungan yang signifikan antara jumlah anggota keluarga (*p value= 0,085*), tidak ada hubungan yang signifikan antara pengaruh teman sebaya (*p value= 0,792*) danfaktor yang paling dominan adalah pendapatan keluarga. Terdapat hubungan yang signifikan antara pengetahuan ibu tentang gizi (*p value*=0,000), pendidikan ibu (pvalue=0,000) dan pendapatan keluarga (p value=0,001). Faktor yang paling dominan terhadap konsumsi buah dan sayur pada anak prasekolah di Desa Babat Kabupaten Penukal Abab Lematang Ilir (PALI) adalah pendapatan keluarga.

Kata Kunci **:** Konsumsi buah dan sayur, anak pra sekolah, buah dan sayur

Introduction

Vegetables and fruit are one of the foods that are relatively easy to find in the territory of Indonesia, and have many benefits for the body because they are rich in nutrients, such as vitamins, minerals, and fiber that can be used to regulate the digestive mechanism in the human body. Indonesia itself strongly recommends a person to consume 3-5 servings of vegetables per day and 2-3 servings of fruits a day.[1]

According to Susanto (2014) the age of school children is the age of maximum growth. Providing nutritious food to children is very helpful in the process of child growth and development. Children's development and growth can be maximized by consuming healthy and nutritious foods. One of these nutritional elements is found in green vegetables.[2]

The age group that is vulnerable to lack of fruit and vegetable consumption is pre- school age children, where this age is an important period for children's growth and development. Therefore, to prevent health problems in adolescents, adults and the elderly, it can be done by providing a healthy diet since they enter an early age, especially consuming fruits and vegetables.[3]

Less consumption of fruits and vegetables can lead to degenerative diseases such as diabetes, hypertension, obesity and cancer. 28% of deaths in the world are caused by a lack of fruit and vegetable consumption. Lack of fruit and vegetable consumption is estimated to cause 14% of deaths from digestive cancer, 11% of deaths from heart diseaseand 9% of deaths from stroke.[1]

The low rate of fruit and vegetable consumption aged 5–14 years in Southeast Asia shows a very low yield of 182 g/day.[4] According to Riskesdas, in2018 Indonesia, with the age group 5-9 years, the proportion of less consumption of fruitsand vegetables is very high, which is 95.4% of their daily needs. The proportion of eating less fruit and vegetables in South Sumatra reaches 97% of their daily needs in one week. The proportion of the lack of fruit and vegetable consumption in the Penukal Abab Lematang Ilir Regency reached a fairly high figure of 91% compared to the less fruit and vegetable consumption rate in Prabumulih City with the proportion of the lack of fruit and vegetable consumption being 85% of their needs per day in one day. week. Where PALI Regency is a district that has a high percentage of not liking to consume vegetables and fruit, which is 7.31%.

Based on the results of the initial survey, preschool children in Babat Village rarely bring their

lunch to school, when they bring their lunch, their mother only prepares food such as bread, snacks, fried noodles and UHT milk and rarely brings lunch in the form of fruit or rice along with side dishes. the leg. The community market in the tripe village is held once a week, which means that to meet food needs, especially fruits and vegetables that have a shelf life that is easily damaged so that the supply of fruit and vegetables at home is only around 1-3 days after the community market. Parents play an important role in meeting the nutritional needs of all family members, especially for children, if the role of parents is less in providing fruit and vegetables at home, it will have an impact on fruit and vegetable consumption in children, and vice versa .

From these problems, researchers are interested in knowing more about "What are the determinants of fruit and vegetable consumption in preschool children in Babat Village, Penukal Abab Lematang Ilir Regency?"

Method

This research is a quantitative research with a *cross sectional* study design . The population in this study were preschool children in Babat Village, Penukal Abab Lematang Ilir Regency as many as 99 people from three Kindergartens. The sampling technique in this study used *purposive sampling.* The sample in this study were students who met the following criteria:

Inclusion Criteria:

1. Mothers who have preschool children in Babat Village, Penukal Abab LematangIlir Regency.
2. Physically and mentally healthy children who attend Kindergarten in BabatVillage, Penukal Abab Regency, Lematang Ilir.
3. Preschool children in Babat Village, Penukal Abab Lematang Ilir Regency aged5-6 years
4.

Exclusion Criteria:

1. Preschool children in Babat Village, Penukal Abab Lematang Ilir Regency wholive with their grandmother, not their mother.

The sample size to be taken is calculated by the following formula (Notoatmodjo,2004):

$$n = \frac{N}{1+N\,(d)^2}$$

n = Sample Size

N = Population Size

d = Deviation Rate (0.1 or 10%)

Based on the above formula, the sample size obtained is 50 people plus a 10%reserve sample so that the total sample is 55 people.

The number of samples in each school is determined by the following formula:

$$N = \frac{n}{n1}\, x\, n2$$

Description:

N = Number of samples of each schooln

n = Number of students in each school

n1 = Total number of students from 3 selected schools

n2 = Total number of samples

The samples in this study were the mothers of preschool children in the Integrated Posyandu PAUD Penukal District as many as 17 people, the Penukal Pembina State Kindergarten as many as 20 people and the Integrated Islamic PAUD Insan Madani as many as 18 people.

The instrument used in this study was a 2x24 hour *food recall* and a questionnaire where a 2x24 hour *food recall was* used to find out the data on fruit and vegetable consumption and a questionnaire was used for questions that became the independent variables in this study which included the availability of fruits and vegetables, knowledge of maternal nutrition. , mother's education, family income, number of family members and peer influence.

Result

The research location is the place used for research, the location of this research is in Babat Village, Penukal District, Penukal Abab Lematang Ilir Regency.

Based on the results of the research, the characteristics of child respondents and household characteristics of pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) can be seen in table 4.1 below:

Table 4.1 Characteristics of Child Respondents

Variable	N	%
Child Age		
5 years	32	58,18
6 years	23	41.82
Child Gender		
Man	28	50,90
Woman	27	49.10

Based on Table 4.1, it can be seen that the number of respondents in this study was 55 students, consisting of 32 students aged 5 years and 23 students aged 6 years. Basedon gender, the number of male students is more than the number of female students.

Table 4.3 Univariate analysis results in pre-school children in Babat Village, Penukal AbabLematang Ilir (PALI) District

Variable	Total (n)	Percent (%)
Consumption of Fruits and Vegetables		
Not enough	35	63.6
Enough	20	36.4
Availability of Fruits and Vegetables		
Not enough	17	30.9
Good	38	69.1
Mother's Nutrition Knowledge		
Not enough	34	61.8
Good	21	38.2
Mother's Education		
Low	37	67.3
Tall	18	32.7
Family Income		
Low	35	63.6
Tall	20	36.4
Number of Family Members		
Big	9	16.4
Small	46	83.6
Peer Influence		
No Influence	45	81.8
There is Influence	10	18.2

Based on Table 4.3, it can be seen that the results of the univariate analysis of pre-school children in Babat Village, Penukal Abab Lematang Ilir Regency, lacked fruit and vegetable consumption, mostly as much as 63.6%. Availability of good fruit and vegetables at home is 69.1%. Mothers who have knowledge of malnutrition are 61.8%. Mothers with a low level of education are 67.3%. low family income mostly as much as 63.6%. The number of small family members is the majority of 83.6% and the influence of peers is almost no influence of 81.8%.

Respondents' answers based on the statement of the availability of fruits and vegetables at home are presented in table 4.4 below:

Table 4.4 Distribution of Respondents Based on Answers Per Statement of Availability ofFruits and Vegetables

Statement	Answer Options										Total
	a		b		c		d		e		
	n	%	n	%	n	%	n	%	n	%	
Is there always fruit available at home every day.	-	-	-	-	28	50.9	27	49.1	-	-	55
When children tell their favorite fruit, do you buy it?	-	-	7	12.73	41	74.54	7	12.73	-	-	55
Are there several types of fruit at home that your child likes?	-	-	25	45.46	23	41.81	7	12.73	-	-	55
Do you have vegetables at home every day?	-	-	5	9.1	17	30.9	33	60			55
When children tell their favorite vegetables, do you buy them?	-	-	9	16.36	39	70.9	7.1	12.73			55
Are there several types of vegetables at home that your child likes?	-	-	22	40	26	47.27	7	12.73	-	-	55

Description:

a) Never

b) Rarely (1-3 days/month)

c) Sometimes (1-3 days/week)

d) Often (4-6 days/week)

e) Always (every day)

Based on Table 4.4 above, out of the 6 statements on average all respondents answered choice b. Rarely (20.60%), choice c. Sometimes (52.73%) and choice d. Often (26.67%) while the answer choices that were not chosen by the respondents were choices (a. never) and (e. always).

Respondents' answers based on the question of maternal nutrition knowledge are presented in table 4.5 below:

Table 4.5 Distribution of Respondents Based on Answers Per Question Maternal NutritionKnowledge

No	Statement	Answer Options				Total
		Right		Wrong		
		n	%	n	%	
1	The minimum portion of vegetable consumption for oneday.	27	49.10	28	50,90	55
2	The minimum portion of fruit consumption for one day.	40	72.72	15	27.28	55
3	The main nutritional content in fruits and vegetables.	36	65.45	19	34.55	55
4	Vegetables that are rich in iron (fe) for the body.	37	67.28	18	32.72	55
5	Fruits and vegetables are good for digestion because they contain lots of	34	61.82	21	38.18	55
6	The best way to eat fruit	27	49.10	28	50,90	55
7	The main benefits of consuming vegetables and fruit.	42	76.36	13	23.64	55
8	How to process vegetables well.	30	54.54	25	45.46	55
9	Colon cancer is a disease caused by lack of fiber.	26	47.27	29	52.73	55
10	Fruits and vegetables can prevent cancer because they contain antioxidants.	16	29.10	39	97.90	55

Based on Table 4.5, it can be seen that the most respondents who answered correctly on the item (7) about the main benefits of consuming fruit and vegetables were 42 people (76.36%), while the respondents who answered the least correctly on the item

(10)) about the content of fruits and vegetables that can prevent cancer, as many as (16) people (29.10%). The mother's answer with the highest score was with a score of 9 pointsas many as 4 people

while the mother's answer with the lowest score got a score of 2 points as many as 3 people. The average mother who answered correctly with a score of 4-5 points out of 10 questions was 19 mothers.

Respondents' answers based on the statement of peer influence are presented in table 4.6 below:

Table 4.6 Distribution of Respondents Based on Answers Per Statement of Peer Influence

No	Statement	Answer Options				Total
		YES		NO		
		n	%	n	%	
1	I once saw my daughter eating fruit at school.	45	81.81	10	18,19	55
2	Mother once saw her child being invited by a friend to eat fruit at school.	33	60	22	40	55
3	When her friends eat fruit at school, the mother's children follow the example of eating too.	36	65.46	19	34.54	55
4	Mother's children often make appointments with their friends to bring provisions such as fruit from home.	28	50,90	27	49.10	55
5	At school, the mother's daughter once got fruit from her friend.	35	63.63	20	36.37	55
6	I once saw my daughter eating vegetables at school.	14	25.46	41	74.54	55
7	Mother once saw her child being invited by a friend to eat vegetables at school.	9	16.36	46	83.64	55
8	When her friends eat vegetables at school, the mother's children follow the example of eating too.	4	7.30	51	92.70	55
9	Mother's children often make appointments with their friends to bring supplies such as vegetables from home.	1	1.80	54	98,20	55
10	At school, my mother used to get vegetables from her friends.	1	1.80	54	98,20	55

Based on Table 4.6 above, it shows that the respondents who answered YES the most to the question item (1) were "I've seen my friend eating fruit at school". While the respondents who answered the least YES to items (9) and (10) were the statement "I often make an appointment with friends to bring a vegetable menu from home" and the statement

"My friend once gave me vegetables when I ate together at school". This is because pre-school children in Babat Village, Penukal Abab Lematang Ilir Regency rarely bring lunch to school when they bring lunch nor do they bring rice and vegetable side dishes but only bring provisions such as fried noodles, nasi uduk and snacks.

The results of the bivariate analysis between the availability of fruit and vegetables, mother's knowledge, mother's education, family income, number of family members and the influence of peers on fruit and vegetable consumption in pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) Regency can be seen in Table 4.7 the following:

Table 4.7 Results of Bivariate Analysis of Pre-School Children in Babat Village, Penukal Abab District, Lematang Ilir (PALI)

Independent Variable	Consumption of Fruits and Vegetables						Total OR (95% CI)	*P Value*
	Less Consumption		Consumption Enough					
	n	%	n	%	n	%		
Availability of fruit and vegetables								
Not enough	10	18.2	7	12.7	17	30.9	0.743	0.620
Good	25	45.5	13	23.6	38	69.1	(0.229- 2.407)	
Mother's Nutrition Knowledge								
Not enough	28	50.9	6	10.9	34	61.8	9,333	0.0001
Good	7	12.7	14	25.5	21	38.2	(2,634-33,074)	
Mother's education								
Low	31	56.4	6	10.9	37	67.3	18,083	0.0001
Tall	4	7.3	14	25.5	18	32.7	(4,398-74,353)	
Family Income								
Low	28	50.9	7	12.7	35	63.6	7,429	0.001
Tall	7	12.7	13	23.6	20	36.4	(2,156-25,594)	
Number of Family Members								
Big	8	14.5	1	1.8	9	16.4	0.178	0.085
Small	27	49.1	19	34.5	46	83.6	(0.020- 1.540)	
Peer Influence								
No influence	29	52.7	16	29.1	45	81.8	1,208	0.792
There is Influence	6	10.9	4	7.3	10	18.2	(0.297-4.923)	

Based on table 4.7, it can be seen that the results of the statistical analysis of the *chi square* test indicate that there are three independent variables that have a relationship with fruit and vegetable consumption in preschool children in Babat Village, Penukal Abab Lematang Ilir (PALI) variable, namely the mother's nutritional knowledge variable with a *p* value *value* = 0.0001 (*p value* <0.05), mother's education variable *p value* = 0.0001 (*p value* <0.05) and family income variable *p value* = 0.001 (*p value* <0.05) then it can be concluded that there is a significant relationship between mother's knowledge, mother's education and family income with fruit and vegetable consumption in preschool children in Babat Village, Penukal Abab Lematang Ilir (PALI) Regency.

Nutrivariate analysis was carried out to determine which variables were the most dominant on fruit and vegetable consumption in pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) Regency. Multivariate analysis was carried out by logistic regression test using a predictive model, by selecting each independent variable.

The results of the multiple logistic regression analysis are presented in table 4.8.

Table 4.8 Final Model of Multiple Logistics Regression

Variable	B	Wald	p value	OR (95% CI)
Mother's nutrition knowledge	0.778	2,699	,001	2,177 (0.861-5.505)
Mother's education	0.463	1.032	,000	1,589 (0.650-3.885)
Family income	2,317	16,799	,000	10,142 (3,350-30,710)
Constant	-0.112	0.064	,003	

Based on the table above, there are 3 variables (mother's nutritional knowledge, mother's education and family income) which are thought to have an influence on fruit and vegetable consumption in preschool children in Babat Village, Penukal Abab Lematang Regency (PALI). Table 4.10 shows that family income is the most dominant variable on fruit and vegetable consumption, because it has the largest OR value among other variables, namely OR 10,142. Which means that pre-school children with good family income have 10,142 times the chance of consuming good fruits and vegetables.

It was concluded that the family income variable was the most dominant factor inthe lack of fruit and vegetable consumption in pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) Regency

Discussion

The limitation of this research is that the time is very limited when conducting interviews with respondents, where interviews with respondents are carried out at schools. Considering that some respondents have busy daily routines so they do not have free time for interviews at school. Direct interviews with each respondent's house are also not possible due to lack of funds and the distance between the respondent's houses is far apart and is still in the period of the corona pandemic *(Covid-19)* . Therefore, the researcher conducted direct interviews with several respondents' homes who were unable to attend when the research at school was conducted so that the data obtained were maximal.

Relationship between Availability of Fruits and Vegetables at Home and Consumption of Fruits and Vegetables

From the statistical test results of the *chi square* test between the availability of fruits and vegetables at home and the consumption of fruits and vegetables in preschool children in Babat Village, Penukal Abab Lematang Ilir (PALI) on sufficient fruit and vegetable availability, *p value* = 0.620 (*p value* > 0.05) it can be concluded that there is no significant relationship between the availability of fruits and vegetables at home with fruit and vegetable consumption in pre-school children.

This is in line with the research conducted by Story et al. (2002) in Mohammad and Madanijah (2015), based on the results of a study in America in 2006 on adolescents it is known that the availability of food in a family has no relationship with fruit and vegetable consumption behavior in adolescents so that it will affect their habits in consuming fruits and vegetables.[5]Research conducted by Candrawati et al (2014) stated that there was a significant relationship between the provision of fruit and vegetables and fruit and vegetable consumption in preschoolers.[6] Nurlidyawati (2015) also stated that fruit consumption behavior is closely related to the availability of fruit at home.[7]

There is no correlation between the availability of fruit and vegetables and fruit and vegetable consumption in pre-school children because when the availability of fruits and vegetables in a

household is good, the encouragement from parents, especially mothers, is not enough to invite children to eat together so that the consumption pattern of fruits and vegetables is not enough. If the child is still fulfilled, it will not guarantee that the child consumes fruits and vegetables properly.

This is in line with research conducted by Melinda (2013) which states that the lack of parental support causes children to rarely consume fruits and vegetables.[8] In addition, research conducted by Nurmahmudah (2015) states that good support from parents can increase children's motivation to consume fruits and vegetables so that ithas an impact on liking fruits and vegetables.[9] Fitri Juliani and Rini Sartika (2021) also revealed that what parents consume in front of their children and support for theirchildren will affect the child's eating patterns.[10]

Relationship between Mother's Knowledge and Consumption of Fruits and Vegetables

From the statistical test results of the *chi square* test between mother's knowledge about nutrition and consumption of fruit and vegetables in pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) village on students whose mother's knowledge about nutrition is low, *p value* = 0.000 (*p value* < 0.05), it can be concluded that there is a significant relationship between mother's knowledge of nutrition and consumption of fruits and vegetables in pre-school children, where pre-school children with maternal nutritional knowledge are less likely to have less fruit and vegetable consumption 9 times greater than pre-school children. schools with good knowledge of maternal nutrition (95% Cl : 2,634-33,074). This means that when the mother's knowledge about nutrition is lacking, some of the consumption of fruits and vegetables in a household is also lacking. The better the mother's nutritional knowledge, the higher the consumption of fruits and vegetables in pre-school children.

This is in line with the research of Khuril'in (2015) that knowledge of maternal nutrition affects the consumption of fish, vegetables, and fruit in preschool age children because the mother is the food provider in the household so that the child consumes what is provided by his mother.[11] Rachman et al (2017) who suggested that there was a relationship between the nutritional knowledge variable and fruit and vegetable consumption behavior. Knowledge of nutrition with fruit and vegetable consumption behavior has a relationship which states that the higher the knowledge of nutrition, the higher the level of consumption of fruits and vegetables.[12] The role of the mother as an educator is related to the consumption of fruit vegetables in children because it is related to the provision of

vegetables and fruit at home.[13] Research conducted by Notoatmodjo (2007) states that good knowledge can support good behavior and vice versa.[14] The less knowledge of the respondent'smother regarding fruit and vegetable consumption, it will affect the behavior of fruit and vegetable consumption in children.

Relationship between Mother's Education and Consumption of Fruits and Vegetables

From the results of the *chi square* test statistical test between maternal education and fruit and vegetable consumption in pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) village, the *p value* = 0.000 (*p value* <0.05) it can be concluded that there is a relationship There is a significant relationship between maternal education and consumption of fruits and vegetables in preschool children, where preschool children with low maternal education are 18 times more likely to have fruit and vegetable consumption than preschool children with high maternal education (95% Cl: 4,398 -74,353). This means that when the mother's education is at a low level, it will affect the mother's low knowledge of nutrition on fruit and vegetable consumption patterns for the family, so that the level of fruit and vegetable consumption in children is low.

The results of this study are in line with research conducted by Putri and Lasri (2016) which states that someone with a secondary education level is likely to think more maturely than the level of education below. If the value of the information obtainedis useful, it will be taken, but when the information obtained is considered less good then it is abandoned.[15]Likewise in terms of fruit and vegetable consumption. Receiving information in terms of fruit and vegetable consumption in children is easier to implement in accordance with the mother's high level of education. This statement is in accordance with the theory of Soekanto (2006) which states that someone with a high level of education will give the response that is also followed by the benefits of the ideas given.[16]

Mothers with higher education are expected to have a desire to understand the best nutrition the body needs, especially for the consumption of fruits and vegetables in their children. With the desire to learn more about nutrition for pre-school children, mothers with good education categories are expected to be able to provide adequate nutrition according to children's needs. Mothers are also able to educate children to have the habit of consuming fruit and vegetables, provide explanations to them about the benefits and consequences of consuming less fruit and vegetables, besides that it can also be done by inviting children to consume fruits and vegetables together and showing that eating Fruits and vegetables are fun . So that the lack of fruit and vegetable consumption in preschool

children can be avoided.

Relationship between Family Income and Consumption of Fruits and Vegetables

From the results of the *chi square* test statistical test between family income and fruit and vegetable consumption in pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) village, the *p value* = 0.001 (*p value* <0.05) it can be concluded that there is a relationship There is a significant relationship between family income and fruit and vegetable consumption in pre-school children, where pre-school children with low family incomes are 7 times more likely to have fruit and vegetable consumption than pre-school children with high family income (95% Cl: 2.156-25.594). This means that when a family's income is low, the consumption of fruit and vegetables in the family is also low. On the other hand, when family income is high, the consumption of fruit and vegetables in the family is good.

Low family income will affect the level of fruit and vegetable consumption in children. Lack of family income will affect the provision of food at home so that it will have an impact on consumption patterns, but for the provision of vegetables at home it can still be fulfilled by the family because vegetables are relatively affordable food ingredients compared to fruits whose prices often increase.

Meeting the needs of a family on family income especially parent's income. Income is a factor which determines the quality and quantity of the food received. The higher the income, the more great opportunity to choose good food. In line with changes in a person's income then will also be followed by changes in the composition the food consumed. Someone with status a high economy tends to consume food with regard to nutritional content.[1]

Suryani (2015) also states that there is a relationship between family income and fruit and vegetable consumption. This can indicate that the level of family income will affect children's fruit and vegetable consumption. Parent's income is very influential meeting the needs of a family. the higher the income of parents, the higher the purchasing power of food, especially fruit and vegetables. A high level of family income will tends to be followed by the number and type of the food consumed. Income level will be reflects the purchasing power of foodstuffs at the household level, so that food consumption especially fruit and vegetables both quantity and quality are influenced by people's income factors old.[17]

Relationship between Number of Family Members and Consumption of Fruits and Vegetables

From the statistical test results of the *chi square* test between the number of family members

and the consumption of fruits and vegetables in pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) village, the *p value* = 0.085 (*p value* > 0.05) it can be concluded that there is no there is a significant relationship between the number of family members with fruit and vegetable consumption in pre- school children. Based on the results of the multivariate analysis, the most related factor was family income. This shows that the large number of family members does not affect fruit and vegetable consumption.

This is in line with research conducted by Mohammad and Madanijah (2015) where the large number of family members has no relationship with fruit and vegetable consumption. [18] The results of this study are also in accordance with research by Kurniawan F (2019) which state that there is no significant relationship between small and large families on fruit and vegetable consumption behavior.[19]

However, this study is not in line with research conducted by Kolifai Y et al (2019) which showed that the number of family members determines the availability of food in the family. With the large number of family members, the food for each child is reduced and the distribution of food is uneven which causes children in the family to consume less fruit and vegetables. Parents need to pay attention to the feeding behavior of pre-school children to meet their daily needs for vegetables and fruit. In addition, parents should consider the number of family members by fulfilling the availability of vegetables and fruits because these factors may influence the adequacy of vegetable and fruit consumption among pre-school children. [20]

There is no correlation between the number of family members and the consumption of fruit and vegetables in children because the cause of a person's lack of fruit and vegetable consumption is not only the number of family members but the family income factor which is the most dominant factor even though the number of family members is small but if the economic level is low , then the need for foodstuffs including fruit and vegetables will also be low. This is in accordance with the opinion of Suhardjo (2006) which states that almost all income is used to fulfill food needs while other needs are not fulfilled.[21]

The Relationship between Peer Influence and Fruit and Vegetable Consumption

From the results of the *chi square* test statistical test between the influence of peers and fruit and vegetable consumption in pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) village, the *p value* = 0.792 (*p value* > 0.05) it can be concluded that there is no there is a significant relationship between the influence of peers with fruit and vegetable consumption in

preschool children. There is no significant relationship because the influence of peers is more dominant in terms of snack food consumption.

There is no relationship between peer influence variables and fruit and vegetable consumption because in this study when children were in school, children would snack more often or choose unhealthy foods, such as drinks that contain lots of sweeteners compared to choosing foods such as fruits. . This is in line with research conducted by Bahria and Triyanti (2010) which states that there is no significant relationship between the role of peers and fruit and vegetable consumption.[22] In addition, according to Krolner, et al. (2011) there is no peer influence on fruit and vegetable consumption, because there is a strong urge from peers to consume snacks.[23]

In Nisa's research (2020) there is no peer relationship with fruit and vegetable consumption because many of the subject's friends at school rarely eat fruit and vegetables and are still dominantly influenced by their family environment, especially parents in choosing the food they eat.[24]

Conclusion

Based on the results of the research on the determinants of fruit and vegetable consumption in pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) village, the following conclusions were obtained:

1. It is known that the number of respondents in this study were 55 students, consisting of 32 students aged 5 years and 23 students aged 6 years. Based on gender, more male students than female students. The average age of the respondent's mother is about 35 years.
2. The frequency of consumption of fruit and vegetables is less in pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) Regency by 63.6% or as many as 35 respondents.
3. Availability of fruit and vegetables in the household is lacking in pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) as many as 17 students (30.9%)
4. Mother's knowledge is lacking in pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) as many as 34 respondents (61.8%).
5. Maternal education is low for pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) as many as 37 respondents (67.3%).

6. Low family income for pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) as many as 35 respondents (63.6%).
7. The number of extended family members of pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) district was 9 respondents (16.4%).
8. The influence of peers on pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) as many as 10 respondents (18.2%).
9. There is no significant relationship between the availability of fruits and vegetables at home and consumption of fruits and vegetables in pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) Regency.
10. There is a significant relationship between mother's knowledge and consumption of fruit and vegetables in pre-school children in Babat Village, Penukal Abab Regency, Lematang Ilir (PALI).
11. There is a significant relationship between mother's education and fruit and vegetable consumption in pre-school children in Babat Village, Penukal Abab Regency, Lematang Ilir (PALI).
12. There is a significant relationship between family income and fruit and vegetable consumption in pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) District.
13. There is no significant relationship between the number of family members and fruit and vegetable consumption in preschool children in Babat Village, Penukal Abab Lematang Ilir (PALI) District.
14. There is no significant relationship between peer influence and fruit and vegetable consumption in pre-school children in Babat Village, Penukal Abab Lematang Ilir (PALI) District.
15. The most dominant factor related to fruit and vegetable consumption in pre- school children in Babat Village, Penukal Abab Lematang Ilir (PALI) district is family income.

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