

# Factors Affecting the Nutritional Status of School Age Children 6-12 Years Old in Raja Maligas Village, Hutabayu Raja District, Simalungun Regency 2022

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## ABSTRACT

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This type of research uses quantitative research, with a cross-sectional study approach, namely studying the dynamics of the relationship or correlation between risk factors and impacts, the approach used is observation at a certain time. The population of this study is mothers who have school children 6-12 years old in the village of King Maligas I with a population of about 80 people. Nutrition is one of the determinants of the quality of human resources. Malnutrition will cause failure of physical growth and intelligence development, reduce work productivity and reduce body resistance which results in increased morbidity and mortality (Directorate of Nutrition RI, 2004). There is a relationship between feeding patterns and the nutritional status of school-aged children 6-12 years in Raja Maligas I Village, Hutabayu Raja District, Simalungun Regency, which is 0.015. There is a relationship between the family environment and the nutritional status of school-aged children 6-12 years in Raja Maligas I Village, Hutabayu Raja District, Simalungun Regency, which is 0.001. There is a relationship between family education (mother) and the nutritional status of school-aged children 6-12 years in Raja Maligas I Village, Hutabayu Raja District, Simalungun Regency, that is 0.006.

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## 1. Introduction

Nutrition is one of the determinants of the quality of human resources. Malnutrition will cause failure of physical growth and intelligence development, reduce work productivity and reduce body resistance which results in increased morbidity and mortality (Directorate of Nutrition RI, 2004). Good nutritional input plays an important role in achieving optimal body growth and this optimal body growth includes brain growth which greatly determines a person's intelligence (Santoso, 2005).

Malnutrition is a common problem in developing countries, in Kenya chronic malnutrition is a national problem with an average of 33% (TB/U) which explains that one child represents 3 (short) children, especially in children with poor nutritional status, and the impact of poor child health services. The trend that occurred in the past was when entering a period of drought, the situation developed in an alarming direction where there was an increase in the proportion of 30-40% of children suffering from malnutrition due to limited food and developing infectious diseases (Moh, 2014). Indonesia is experiencing a double nutritional problem, namely the problem of undernutrition and overnutrition. Nutritional problems not only include health but also other aspects. Outside the medical aspect of the classification of nutritional problems is due to poverty, culture, knowledge/understanding, food

distribution and natural disasters. Therefore, handling or improving nutrition is not only directed at disorders but also towards other fields, for example, KKP nutritional disease is not enough to provide food alone, but also to improve the family economy, increase knowledge and so on (Notoatmodjo, 2007). The Minister of Health explained that factors that influence nutrition problems include food consumption patterns that still do not reflect a diet that is in accordance with balanced nutrition guidelines, including consumption of vegetables and fruit reaching 63.3%, consumption of animal foods 62.1%, tubers 35.8%. The factors of low food security, household lack of environmental sanitation, lack of family knowledge, and inadequate health services are four interrelated factors that greatly influence the incidence of malnutrition in the community. (Ministry of Health, 2011)

Based on data released by the Raja Maligas Public Health Center, Simalungun Regency, the nutritional status of the community in Raja Maligas District in 2019 showed that there were still poor nutritional status including poor nutrition (0.22%), undernutrition (14.76%), good nutrition (82%), over nutrition (3.02%).

Based on the description on the background, the formulation of the problem is what are the factors that affect the nutritional status of school age children 6-12 years in Raja Maligas Village, Simalungun Regency in 2022.

The aim of this research is to find out what factors affect the nutritional status of school-aged children 6-12 years in the village Raja Maligas I, Hutabayu Raja District, Simalungun Regency in 2022.

## **2. Research Methods**

### **2.1 Research design**

This type of research uses quantitative research, with a cross-sectional study approach, namely studying the dynamics of the relationship or correlation between risk factors and impacts, the approach used is observation at a certain time.

### **2.2 Population and Research Sample**

The population of this study is mothers who have school children 6-12 years old in the village of King Maligas I with a population of about 80 people. The sample is the object under study and is considered to represent the entire population (Notoadmodjo, 2012). The sample of this study was carried out on school-age children, namely aged 6-12 years in the village Raja Maligas I, Hutabayu Raja District, numbered 80 people.

### **2.3 Sampling Technique**

In this study, sampling was carried out using a total sampling technique, namely by taking all samples in the population. Total sampling is a sampling technique where the number of samples is the same as the population (Sugiyono, 2007). The reason for taking Total Sampling is because according to Sugiyono (2007) the total population is less than 100, the entire population is used as the research sample.

### **2.4 Research Location and Time**

This research was conducted in the village King Maligas I Simalungun Regency. This research was conducted in June - August 2022.

### **2.5 Data collection**

The data collected are primary and secondary data. Primary data is data directly obtained from respondents by mentioning a questionnaire containing questions that have been provided and then by the respondent in accordance with the instructions, namely the check list sheet. While secondary data is data that is reviewed from reports that are in the village Raja Maligas I, Hutabayu Raja District, Simalungun Regency in 2020.

### **2.6 Processing and data analysis**

#### **a. Data processing**

Data analysis was performed bivariately using the chi-square test and processed by SPSS. After collecting the data, then the data is planned to be processed computerized using SPSS in stages.

#### **1) editing,**

That is the activity of checking the data that has been collected whether it has been filled out completely or not.

#### **2) coding,**

Namely giving certain codes to each category or answers given by respondents.

#### **3) transfer,**

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That is, the data that has been coded is arranged sequentially from the first respondent to the last respondent, then entered in the table.

#### 4) *Tabulating*

That is, enter data into tabular form carefully and regularly, then calculated in one category

### 2.7 Data analysis

Analysis of the data used to see the frequency distribution of the variables studied, both dependent and independent variables, the analysis carried out in this study in stages from univariate and bivariate analysis.

#### a. Univariate Analysis

Univariate analysis is to determine the frequency distribution entered in the frequency distribution table, to determine the percentage in this study the formula according to Icham (2008) is:

$$p = \frac{f \times 100\%}{n}$$

Information : p = percentage  
 F = number of frequencies  
 n = number of respondents

Then the researcher will calculate the frequency distribution and look for the presentation on each variable using the SPSS computer program.

#### b. Bivariate Analysis

Bivariate analysis was carried out to see the relationship between the independent variable and the dependent variable, using a statistical regression test, with the level of significance being:

- a) Ha is accepted and Ho is rejected: if P value < 0.05, it means that there is a relationship between the independent variable and the dependent variable.
- b) Ha is rejected and Ho is accepted: if P value > 0.05, it means that there is no relationship between the independent variable and the dependent variable.

### 2.8 Research Ethics

The ethical aspect used in this study pays attention to the autonomy aspect, namely, the researcher provides explanations to the respondents in the implementation of the research including the aims and objectives of the research, as well as submits a request to participate in the research. The researcher explains how to fill in the instrument, giving the respondents freedom of choice of time in filling out the instrument.

### 2.9 Conceptual framework

Conceptual framework is a formulation or simplification of the theoretical framework that supports research consisting of variables and the relationship between one variable and another (Notoatmodjo, 2012).

This study was conducted to determine the factors that affect the nutritional status of school-aged children 6-12 years of age victims of the eruption of Mount Sinabung in Huntara Housing, Central Kuta Village, Karo Regency. The variable of this research is nutritional status.

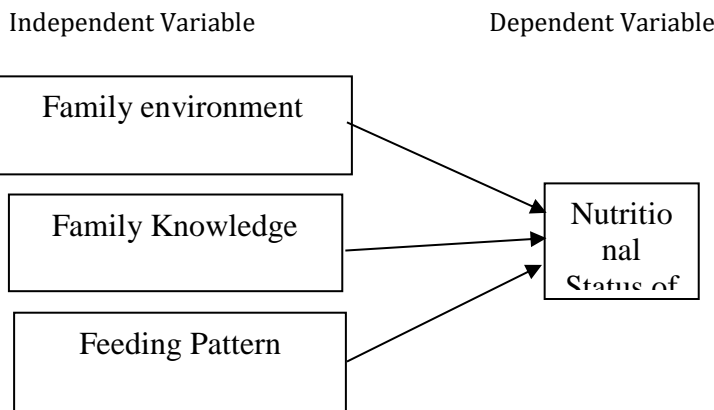


Figure 3.1 Conceptual Framework Schematic

## 2.10 Operational Definition

No	Dependent Variable	Operational Definition	Measuring instrument	Measure ment Results	Measuring Scale
1	Nutritional status of school-age children	Nutritional status is the body condition of school-age children who are victims of the eruption of Mount Sinabung as a result of the use of nutrients measured by anthropometric indexes, namely weight and height using the BMI formula.	Scales and height measuring devices	1. Good = 18 - 2 2. Normal = 13 - 17 3. Less = 10 - 12	ordinal

## 2.11 Hypothesis

Based on the research concept framework, the formulation of the research hypothesis is as follows:

- There is a relationship between the family environment and the nutritional status of school children 6-12 years old victims of the Mount Sinabung eruption in 2022.
- There is a relationship between family knowledge and nutritional status of school children 6-12 years old victims of the Mount Sinabung eruption in 2022.

There is a relationship between feeding patterns and the nutritional status of children 6-12 years old in the village Raja Maligas I, Hutabayu Raja District, Simalungun Regency in 2022.

## 3. Results and Discussion

### 3.1 Overview of Research Sites

Village King Maligas I located in Hutabayu Raja District, Simalungun Regency, has a population of 1,460 people, with a total of 464 families. Data collection was carried out in June-August in the village of King Maligas I Hutabayu District Raja Simalungun Regency.

School children and especially children aged 6-12 years are the subject of attention where children of that age are still in the age of development and growth, therefore researchers conducted research on the factors that affect the nutritional status of school-aged children 6-12 years in the village. King Maligas II is located in Hutabayu Raja District, Simalungun Regency.

### 3.2 Univariate Analysis Results

#### a. Subject Characteristics

- Mother's Age

**Table 1**

Distribution of Respondents based on Mother's Age in the Village King Maligas I Hutabayu Raja District, Simalungun Regency in 2020

Mother's Age	Frequency (n)	Percentage (%)
25-32 years old	21	26.4
33-40 years old	41	51.5
41-47 years old	18	22.7
<b>Total</b>	<b>80</b>	<b>100</b>

## 2) Mother's Education

**Table 2**

Distribution of Respondents Based on Mother's Education in the Village King Maligas I Hutabayu Raja District, Simalungun Regency in 2020

<b>Mother's Education</b>	<b>Frequency (n)</b>	<b>Percentage (%)</b>
JUNIOR HIGH SCHOOL	15	18.7
SENIOR HIGH SCHOOL	52	65.0
D1/D2/D3	6	7.5
S1/S2/S3	7	8.8
<b>Total</b>	<b>80</b>	<b>100</b>

## 3) Mother's Job

**Table 3**

Distribution of Respondents Based on Mother's Occupation in the Village King Maligas I Hutabayu Raja District, Simalungun Regency in 2020

<b>Mother's Job</b>	<b>Frequency (n)</b>	<b>Percentage (%)</b>
IRT	17	21.3
Farmer	52	65.0
Self-employed	2	2.5
civil servant	9	11.2
<b>Total</b>	<b>80</b>	<b>100</b>

## 4) Child Age

**Table 4**

Distribution of Respondents by Age of Children in Raja Maligas I Village, Hutabayu Raja District

<b>Child Age</b>	<b>Frequency (n)</b>	<b>Percentage (%)</b>
6 years	21	15.2
7 years	4	2.9
8 years	9	6.5
9 years	14	10.1
10 years	7	5.1
11 years old	14	10.1
12 years old	11	8.0
<b>Total</b>	<b>80</b>	<b>100.0</b>

## 5) Children's Nutritional Status Based on BB/TB

**Table 5**

Distribution of Children's Nutritional Status Based on BB/TB in Raja Maligas I Village, Hutabayu Raja District

<b>Nutritional status</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Well	22	27.5
Normal	52	65.0
Not enough	6	7.5
<b>Amount</b>	<b>80</b>	<b>100</b>

## 6) Feeding Pattern

**Table 6**

Distribution of Feeding Patterns in School Children 6-12 Years in Raja Maligas I Village, Hutabayu Raja District, Simalungun Regency.

<b>Feeding Pattern</b>	<b>Frequency (n)</b>	<b>Percentage (%)</b>
Well	53	66.3
Not enough	27	33.8
<b>Amount</b>	<b>80</b>	<b>100</b>

### 3.3 Bivariate Analysis Results

#### a. The Relationship of Feeding Patterns with Children's Nutritional Status

**Table 7**

HRelationship between Feeding Patterns and Nutritional Status of School-Age Children 6-12 Years Old in Raja Maligas I Village, Hutabayu Raja District, Simalungun Regency in 2022

Feeding Pattern	Nutritional status			Total	pValue
	Well	Normal	Not enough		
	f %	f %	f %	f %	
Well	20 37.7	30 56.6	3 5.7	53 100.0	0.015
Not enough	2 7.4	22 81.5	3 11.1	27 100.0	
<b>Total</b>	<b>22 27.5</b>	<b>52 65.0</b>	<b>6 7.5</b>	<b>80 100.0</b>	

The table above shows that from 53 people (100.0%) 20 people (37.7%) good feeding patterns, 30 people (56.6%) good feeding patterns, normal feeding patterns. 3 people (5.7%) lack good food, from 27 people (100.0%) 2 people (7.4%) poor feeding patterns, 3 people poor feeding patterns ( 11.1%) which is normal, the pattern of giving less food is 19 people (67.9%) which is lacking.

Based on the results of statistical tests using the Chi Square test showed that pValue (= 0.015) < (= 0.05). So it can be concluded that Ha is accepted, that is, there is a relationship between feeding patterns and the nutritional status of school-aged children 6-12 years in Raja Maligas I Village, Hutabayu Raja District, Simalungun Regency.

#### b. Relationship between Family Environment and Children's Nutritional Status

**Table 8**

HRelationship of Family Environment with Nutritional Status of School Age Children 6-12 Years in Raja Maligas I Village, Hutabayu Raja District, Simalungun Regency

Family environment	Nutritional status			Total	pValue
	Well	Normal	Not enough		
	f %	f %	f %	f %	
Well	13 25.0	39 75.0	0 0.0	52 100.0	0.001
Not enough	9 32.1	13 46.4	6 21.4	28 100.0	
<b>Total</b>	<b>22 27.5</b>	<b>52 65.0</b>	<b>6 7.5</b>	<b>80 100.0</b>	

Source: Primary Data

The table above shows that from 52 people (100.0%) a good family environment as many as 13 people (25.0%) is good, a good family environment as many as 39 people (75.0%) is normal, a good family environment as many as 0 people (0.0%) who are lacking, from 28 people (100.0%) the family environment is lacking as many as 9 people (32.1%) are good, the family environment is lacking as many as 13 people (46.4%) which is normal, the family environment is lacking as many as 6 people (21.4%) are lacking.

Based on the results of statistical tests using the Chi Square test, it shows that pValue (= 0.001 < (= 0.05). So it can be concluded that Ha, namely there is no relationship between the family environment and the nutritional status of school-aged children 6-12 years in Raja maligas I Village. Hutabayu Raja District, Simalungun Regency.

#### c. The Relationship of Mother's Knowledge with Nutritional Status in Children

**Table 9**

Knowledge Families with Nutritional Status of School-Age Children 6-12 Years Old in Raja Maligas I Village, Hutabayu Raja District, Simalungun Regency in 2022

Mother's Knowledge	Nutritional status			Total	pValue
	Well	Normal	Not enough		
	f %	f %	f %	f %	
Well	6 75.0	2 25.0	0 0.0	8 100.0	0.006
Not enough	16 22.2	50 69.4	6 8.3	72 100.0	
<b>Total</b>	<b>22 27.5</b>	<b>52 65.0</b>	<b>6 7.5</b>	<b>80 100.0</b>	

Source: Primary Data

The table above shows that from 18 people (100.0%) good family knowledge as many as 6 people (75.0%) are very good, good family knowledge as many as 2 people (25.0%) are normal, family

knowledge is good. good as many as 0 people (0.0%) who lacked, from 72 people (100.0%) lack of family knowledge as many as 16 people (22.2%) good, family knowledge that was less as many as 50 people (69.4% ) are normal, less family knowledge as many as 6 people (7.5%) are lacking.

Based on the results of statistical tests using the Chi Square test, it shows that pValue ( $=0.006 < (=0.05)$ ). So it can be concluded that  $H_a$  is accepted, that is, there is a relationship between mother's knowledge and the nutritional status of school-aged children 6-12 years old in Raja maligas I Village. Hutabayu Raja District, Simalungun Regency.

### 3.4 Discussion

#### a. Relationship between Feeding Patterns and Nutritional Status

Based on the data processing carried out by researchers, it can be seen in table 5.11 which shows that the number of respondents who have a good feeding pattern is 53 people (100.0%), the category of poor feeding patterns is 27 people (100.0%). The results of statistical analysis showed that  $p = 0.015 (<0.05)$  means that the pattern of feeding affects nutritional status. Poor feeding patterns and excessive consumption of small amounts of food can lead to various diseases, especially gastrointestinal disorders (Abdul B, 2006).

According to researchers, the pattern of feeding can have little effect on the nutritional status of school-age children. This was confirmed by the previous researcher Kusnadi. H that irregular eating patterns and habits can cause disruption of the balance of digestive and gastric enzymes. Parents as controllers must see whether their child's feeding pattern is regular or otherwise, the child's eating pattern fulfills three aspects, namely physiological, educational and psychological aspects.

#### b. Relationship of Family Environment with Nutritional Status

Based on data processing carried out by researchers, it can be seen in table 5.12 shows that the number of respondents who have a good family environment is 52 people (100.0%), the category of family environment is less as many as 28 people (100.0%). The results of statistical analysis showed that  $p=0.001 (<0.05)$  means that the family environment affects nutritional status.

According to Widodo Judarwanto (2005), several psychological aspects in family relationships, both between children and parents, between fathers and mothers. Things that hinder the eating process can come from psychological factors, namely thoughts and feelings and so on. The role of both parents in realizing the child's personality, among others, both parents must love and care for their children, parents must maintain the tranquility of the home environment.

#### c. Relationship between Family Knowledge (Mother) and Nutritional Status

Based on data processing carried out by researchers, which can be seen in table 5.13 shows that the number of respondents who have good knowledge is 8 people (100.0%), the category of family knowledge is less as many as 72 people (100.0%). The results of statistical analysis showed that  $p=0.006 (<0.05)$  means that family knowledge affects nutritional status. Knowledge according to Notoatmodjo, 1995 knowledge is what everyone knows and can remember after experiencing, witnessing, observing from birth to adulthood, especially after being given formal and non-formal education.

Knowledge about health, nutrition maintenance will have an influence on food patterns. Knowledge is very important in influencing attitudes in choosing a family diet, especially for mothers who prepare food for their families. Therefore, knowledge about nutrition is very necessary (Ngatimin, 1987). The most problematic nutritional status in children is found in mothers who are educated and have broad knowledge. Meanwhile, for parents who lack education and broad knowledge, this problem is not so prominent. This knowledge knows that the science of child health will cause mothers to panic when their children refuse the food they are given. (Wiharta, 1982). It is very important that parents should enrich their knowledge about school-age children, especially in terms of nutrition.

From the results of the research above, it can be concluded that the more knowledge a mother has, the more she knows the impact of nutritional status on her child, as well as research conducted by Mulyani Arief, 2010 that the level of knowledge is related to the nutritional status of school-age children.

#### **4. Conclusion**

There is a relationship between feeding patterns and the nutritional status of school-aged children 6-12 years in Raja Maligas I Village, Hutabayu Raja District, Simalungun Regency, which is 0.015. There is a relationship between the family environment and the nutritional status of school-aged children 6-12 years in Raja Maligas I Village, Hutabayu Raja District, Simalungun Regency, which is 0.001. There is a relationship between family education (mother) and the nutritional status of school-aged children 6-12 years in Raja Maligas I Village, Hutabayu Raja District, Simalungun Regency, that is 0.006.

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