

The Relationship Between Mothers' Behavior in Feeding Patterns and Nutritional Nutrition of Toddlers Aged 3-5 Years

Debora Natalia Simamora¹, Nova Sontry Node Siregar², Fransiska Debatara³,
Oknalita Simbolon⁴

Prodi Diii Kebidanan Sekolah Tinggi Ilmu Kesehatan Kesehatan Baru
Email: debora.simamora@stikeskb.ac.id

Toddlerhood is a period of rapid growth, requiring complete nutritional needs. Fulfillment of toddler nutrition depends on maternal behavior. According to the Humbang Hasundutan Health Profile, the prevalence of toddler nutritional status based on the 2024 Basic Health Research (Risksda) was 16.8%, with undernutrition at 13.3%, adequate nutrition at 63%, and overnutrition at 6.2%. This descriptive, analytical study with a cross-sectional design aimed to determine the relationship between maternal dietary behavior and the nutritional status of toddlers. This study was conducted in Saitnihuta Village, Doloksanggul District, Humbang Hasundutan Regency in 2025. Sampling was conducted using total sampling, with 54 mothers and 54 toddlers. The instruments used were questionnaires and toddler weight measurements. Primary data were obtained from questionnaires and toddler weight measurements, while secondary data were collected from village reports. The results of the study, using a chi-square test with a significant degree of significance, showed that maternal knowledge was related to toddler nutritional status ($p\text{-value} > \alpha$ ($0.000 > 0.05$), maternal attitudes were related to toddler nutritional status ($p\text{-value} < \alpha$ ($0.000 < 0.05$), and maternal actions were related to toddler nutritional status ($p\text{-value} < \alpha$ ($0.000 < 0.005$). It is hoped that mothers with toddlers will understand good eating patterns for their children and the active role of the community in supporting health services and the role of health workers in providing counseling on toddler nutrition.

Keyword: Behavior, Dietary Patterns, Nutritional Status

This is an open access article under the [CC BY-NC](#) license



Corresponding Author:

Debora Natalia Simamora
Prodi Diii Kebidanan Sekolah Tinggi Ilmu Kesehatan Kesehatan Baru
debora.simamora@stikeskb.ac.id

1. Introduction

Toddlers are children under five years of age (0–59 months) who are in a critical period of life often referred to as the golden age, characterized by very rapid physical growth and development. During this phase, children require adequate quantities and optimal quality of nutrients to support tissue formation, organ function, and cognitive development. However, toddlers are a vulnerable age group with a high risk of nutritional problems due to limited access to food, inappropriate caregiving practices, and environmental conditions that do not support good health.

Nutritional problems among toddlers in Indonesia are still predominantly characterized by undernutrition and overnutrition. Undernutrition is generally associated with socioeconomic factors, limited food availability, inadequate environmental sanitation, and low levels of family knowledge regarding nutrition and health. Meanwhile, overnutrition tends to emerge alongside improvements in socioeconomic status that are not accompanied by sufficient understanding of balanced dietary patterns and healthy lifestyles (Ministry of Health of the Republic of Indonesia, 2020; UNICEF, 2021).

Meeting toddlers' nutritional needs is a key factor in supporting optimal growth and development. Food intake provided by mothers or caregivers greatly influences nutritional status, physical development, and children's cognitive abilities. Growth and development will occur optimally when both macronutrient and

micronutrient requirements are adequately and consistently fulfilled. In addition, adequate nutrition plays an essential role in supporting brain function, learning capacity, and concentration from an early age (Ministry of Health of the Republic of Indonesia, 2022; WHO, 2021).

The implementation of balanced dietary patterns tailored to individual needs, along with appropriate food selection, plays an important role in achieving and maintaining optimal nutritional status. Excessive food intake beyond the body's needs can result in energy accumulation, leading to weight gain and an increased risk of non-communicable diseases. Conversely, insufficient food intake can lead to weight loss and impaired nutritional status (Ministry of Health of the Republic of Indonesia, 2022; WHO, 2020).

Meal frequency is one indicator that reflects the adequacy of nutritional intake. The more frequently an individual consumes meals in accordance with recommended portions, the greater the likelihood that daily nutritional requirements will be met. Meal frequency is also influenced by socioeconomic conditions, as individuals or families with better economic capacity tend to have higher frequency and greater variety of food consumption. In contrast, limited economic resources reduce purchasing power, thereby decreasing both the quantity and quality of food intake (FAO, IFAD, UNICEF, WFP & WHO, 2022).

Various studies in the health sector indicate that the highest global mortality rates continue to occur among infants and children. One of the primary contributing factors is inadequate nutritional intake, which leads to impaired physical growth and reduced resistance to infectious diseases. Furthermore, nutritional status is closely related to work capacity and productivity. In recent decades, increasing attention has been given to the impact of nutrition on children's mental development, particularly in relation to brain cell growth and maturation. This highlights the critical importance of adequate nutrition throughout every stage of the human life cycle (UNICEF, 2021; WHO, 2021).

Nutritional problems in individuals are fundamentally caused by an imbalance between the quantity and quality of food consumption and the body's nutritional needs. This condition often arises due to limited knowledge and skills among caregivers, particularly mothers, in selecting and processing food appropriately. Insufficient understanding of nutrition and food preparation techniques can result in meal planning that fails to meet the nutritional requirements of family members, especially children (Ministry of Health of the Republic of Indonesia, 2020).

Food preparation behavior is strongly influenced by the level of knowledge, attitudes, and support from health service systems. Adequate nutritional knowledge enables mothers to plan balanced menus by considering food types, nutrient content, and appropriate cooking methods to preserve nutritional value. Understanding the nutritional content of various food sources also helps families select foods that are economically affordable yet nutritionally rich (UNICEF, 2021; FAO, 2022).

Improving maternal knowledge regarding child nutrition can be achieved through the active role of health services, particularly community-based health services. Nutrition education activities, such as counseling and education sessions at integrated health posts (Posyandu), represent effective strategies for enhancing mothers' understanding of child nutrition fulfillment, prevention of nutritional problems, and the implementation of healthy dietary practices within families (Ministry of Health of the Republic of Indonesia, 2022).

The World Health Organization estimates that more than half of deaths among infants and toddlers are associated with inadequate nutritional conditions. Globally, millions of children die each year before reaching the age of five, with the majority of these deaths occurring in developing countries. The high under-five mortality rate reflects the serious direct and indirect impacts of nutritional problems on child survival (WHO, 2021; UNICEF, 2022).

In Indonesia, under-five mortality remains a major concern in health development. Every day, a significant number of toddlers die due to various factors related to nutritional status and vulnerability to disease. This condition indicates that improving child nutritional status, particularly during early life, is a strategic effort to reduce under-five mortality and enhance the quality of human resources in the future (Ministry of Health of the Republic of Indonesia, 2022).

Data on under-five mortality in Humbang Hasundutan Regency from 2023 to 2025 show that in 2023 the rate was 4 per 1,000 live births (1 toddler), while in 2024 it increased to 5 per 1,000 live births, with 17 toddler deaths recorded (Humbang Hasundutan Health Profile, 2025).

The under-five mortality rate at Saitnihuta Community Health Center is the third highest among the ten health centers in Humbang Hasundutan Regency, with a rate of 23 per 1,000 live births. This means that out of 575 live births, 9 toddlers died. There is currently no specific survey data identifying the exact causes of toddler mortality in Humbang Hasundutan Regency; however, one of the contributing factors is undernutrition (Humbang Hasundutan Health Profile, 2025).

The total number of toddlers in Saitnihuta Village in 2025 was 165 children. Preliminary surveys indicated that in 2024 there were still three toddlers suffering from severe malnutrition. In 2025, one toddler aged three years died due to severe malnutrition. According to several mothers, many of them lack adequate knowledge regarding appropriate nutritional practices and dietary patterns for their children. Mothers also provide insufficient nutritious food to their children.

Maternal knowledge and attitudes are essential to ensure the provision of appropriate food for children. Due to mothers' busy work schedules in agricultural fields, they often pay limited attention to their children's dietary patterns. For example, locally available food resources such as sweet potatoes, vegetables, and carrots which are rich in essential nutrients are rarely provided to children, despite being agricultural products of the area. This situation is exacerbated by mothers' limited knowledge of nutritious foods and appropriate food preparation methods for toddlers. In addition, the generally low household income, with most residents working as farmers, further limits mothers' attention to their children's nutritional needs. Health workers have attempted to address this issue by providing free milk to toddlers suffering from severe malnutrition.

Based on the above conditions, the author is interested in conducting a study on the relationship between maternal behavior regarding dietary patterns and the nutritional status of toddlers in Saitnihuta Village, Doloksanggul Subdistrict, Humbang Hasundutan Regency, in 2025. Research Objective The objective of this study is to determine the relationship between maternal behavior regarding dietary patterns and the nutritional status of toddlers.

2. Research Methods

This study employed an analytic research design aimed at determining the relationship between maternal behavior regarding dietary patterns and the nutritional status of toddlers in Saitnihuta Village, Doloksanggul Subdistrict, Humbang Hasundutan Regency, in 2025. The research design used was a cross-sectional approach, in which both independent and dependent variables were observed and measured simultaneously at a single point in time.

The study was conducted in Saitnihuta Village, Doloksanggul Subdistrict, Humbang Hasundutan Regency, in 2025. The selection of this study location was based on the continued presence of nutritional problems among toddlers in the area.

According to Handayani (2020), a population is the totality of all elements to be studied that share similar

characteristics, which may include individuals within a group, events, or other research objects. The population represents the entire set of research subjects and serves as the primary source of data and information for research purposes, including humans, values, tests, objects, or events.

Based on this definition, the population in this study consisted of all mothers who had toddlers and their children residing in Saitnihuta Village, Doloksanggul Subdistrict, Humbang Hasundutan Regency, in 2025. The total population comprised 54 mothers and 54 toddlers aged 3 to 5 years. Toddlers within this age range are considered active consumers and require close parental supervision, as they tend to choose foods independently without understanding their nutritional content.

A sample is a subset of the total research population that is considered representative of the entire population (Notoatmodjo, 2018). The sample in this study included mothers who had toddlers aged 3 to 5 years in Saitnihuta Village, Doloksanggul Subdistrict, Humbang Hasundutan Regency, totaling 54 respondents.

The sampling technique used in this study was total sampling, in which the entire population was included as the research sample. Primary data were collected through interviews using questionnaires developed by the researcher and administered to mothers with toddlers aged 3–5 years in Saitnihuta Village, Doloksanggul Subdistrict, Humbang Hasundutan Regency, in 2025. Secondary data were obtained from external sources and institutions that routinely collect relevant data. In this study, secondary data were sourced from the Village Health Post (Poskesdes) with assistance from the village midwife in Saitnihuta Village, Doloksanggul Subdistrict, Humbang Hasundutan Regency, in 2025. To facilitate the research process and ensure a consistent understanding of the variables studied, the operational definitions of the research variables are as follows:

Table 1 Variables and Operational Definitions

Variable	Definition	Parameters	Measurement Instrument	Scale	Measurement Results
Maternal knowledge of toddler nutrition	All information known by respondents who have toddlers regarding dietary patterns and their relationship to nutritional status	a. Nutritious food for toddlers b. Methods of food preparation for toddlers c. Appropriate and balanced food composition	Questionnaire	Ordinal	1. Good (code 1) 2. Fair (code 2) 3. Poor (code 3)
Maternal attitude toward toddler nutrition	The response or belief of a mother regarding toddler nutrition	Maternal awareness of toddler nutrition, including the intention to provide adequate nutrition to the child, even if it has not yet been fully implemented	Questionnaire	Ordinal	1. Positive (code 1) 2. Negative (code 2)

Variable	Definition	Parameters	Measurement Instrument	Scale	Measurement Results
Maternal practices (actions)	Activities or actions performed by mothers managing toddler nutrition	Providing nutritious food and the ability to prepare appropriate food for toddlers	Questionnaire	Ordinal	1. Good (code 1) 2. Poor (code 2)
Toddler nutritional status	Assessment of toddlers' nutritional intake adequacy	Body weight measurement	1. Toddler weighing scale 2. Toddler nutrition standards	Ordinal	1. Normal nutritional status (code 1) 2. Underweight (code 2) 3. Severely undernourished (code 3) 4. Overnutrition (code 4)

Here is a clear, formal, and academically appropriate English translation of the Measurement Aspects section:

1. Knowledge

Knowledge of toddler nutrition was measured using 20 questions, with a maximum score of 20. The results were categorized into good, fair, and poor knowledge:

- a. Good: Respondents who answered 15–20 questions correctly, with a score of 75%–100%, were classified as good (code 1).
- b. Fair: Respondents who answered 9–14 questions correctly, with a score of 45%–74%, were classified as fair (code 2).
- c. Poor: Respondents who answered ≤ 8 questions correctly, or scored $\leq 45\%$, were classified as poor (code 3).

2. Attitude

Attitudes toward toddler nutrition were measured using 10 questions, with a maximum score of 10, and were categorized into positive and negative attitudes:

- a. Positive: Respondents whose answers on the attitude variable regarding toddler nutrition reached a total score of ≥ 5 –10, or $\geq 50\%$, were classified as having a positive attitude (code 1).
- b. Negative: Respondents whose answers on the attitude variable regarding toddler nutrition totaled ≤ 5 , or $\leq 50\%$, were classified as having a negative attitude (code 2).

3. Practices (Actions)

Practices related to toddler nutrition were measured using 10 questions, with a maximum score of 10, and were categorized into good and poor practices:

- a. Good: Respondents who achieved a total score of ≥ 5 –10, or $\geq 50\%$, were classified as having good practices.
- b. Poor: Respondents who achieved a total score of ≤ 5 , or $\leq 50\%$, were classified as having poor practices.

4. Toddler Nutritional Status

Toddler nutritional status was categorized based on the Weight-for-Age (W/A) index and its cutoff points according to the Decree of the Minister of Health of the Republic of Indonesia No. 920/Menkes, which adopts the WHO standard reference. The classification of nutritional status is presented in the table.

Table 2 Classification of Nutritional Status of Toddlers

Index	Nutritional Status	Cut-off Point
Weight-for-Age (W/A)	Overnutrition	> +2 SD
	Normal nutritional status	> -2 SD to +2 SD
	Undernutrition	< -2 SD to \geq -3 SD
	Severe undernutrition	< -2 SD to \geq -3 SD

Sumber: Susilowati, 2020

For the dependent variable, namely the nutritional status of toddlers, the classification is based on the Weight-for-Age (W/A) index as follows:

- Normal nutritional status: Toddlers whose W/A measurement falls between > -2 SD and +2 SD are classified as having normal nutritional status (code 1).
- Undernutrition: Toddlers whose W/A measurement falls between < -2 SD and \geq -3 SD are classified as undernourished (code 2).
- Severe undernutrition: Toddlers whose W/A measurement falls between < -2 SD and \geq -3 SD are classified as severely undernourished (code 3).
- Overnutrition: Toddlers whose W/A measurement is > +2 SD are classified as overnourished (code 4).

3. Results

General Description and Study Location

The study was conducted in Saitnihuta Village, Doloksanggul Subdistrict, Humbang Hasundutan Regency, in 2025.

Research Results

Univariate Analysis

Data interpretation is presented in the form of tables to facilitate and simplify the description of each variable examined. The data were collected through questionnaires distributed to respondents regarding "The Relationship between Maternal Behavior Related to Dietary Patterns and the Nutritional Status of Toddlers in Saitnihuta Village, Doloksanggul Subdistrict, Humbang Hasundutan Regency, in 2025." The results of the data collection are presented in the following table:

Table 3. Frequency Distribution of Respondents Based on Maternal Knowledge, Attitudes, and Practices Regarding Dietary Patterns and Toddler Nutritional Status

No.	Variable	Category	Frequency (n)	Percentage (%)
1	Knowledge	Good	27	50.0
		Fair	17	31.5
		Poor	10	18.5
		Total	54	100
2	Attitude	Positive	38	70.4
		Negative	16	29.6
		Total	54	100
3	Practices	Good	33	61.1
		Poor	21	38.9
		Total	54	100

Based on Table 4.1, it can be seen that the majority of mothers had good knowledge regarding nutritional needs, totaling 27 respondents (50.0%), while the minority had poor knowledge, totaling 10 respondents (18.5%). Regarding maternal attitudes toward nutritional needs, the majority showed a positive attitude, with 38 respondents (70.4%), while 16 respondents (29.6%) had a negative attitude. Based on maternal practices related to nutritional needs, the majority demonstrated good practices, with 33 respondents (61.1%), while 21 respondents (38.9%) exhibited poor practices. In terms of toddlers' nutritional status, the majority of respondents had toddlers with undernutrition, totaling 26 children (48.1%), while the minority of toddlers had severe undernutrition and overnutrition, with 2 children (3.7%), respectively.

Bivariate Analysis

Bivariate analysis is a further analytical step used to examine the relationship between two variables that are suspected to be associated. The statistical test applied in this study was the chi-square test, which aims to determine whether there is a relationship between the variables by comparing the p-value with the significance level ($p\text{-value} < \alpha$).

Relationship between Maternal Knowledge of Dietary Patterns and Toddler Nutritional Status

The results of data collection obtained through questionnaires administered directly to respondents using primary data are presented in the following table:

Table 4. Relationship between Maternal Knowledge of Dietary Patterns and Toddler Nutritional Status

Knowledge	Nutritional Status in Toddlers										df	P-Value
	Good		Underweight		Bad		More		Total			
	n	%	n	%	n	%	n	%	N	%		
Appropriate	21	77,8	4	14,8	0	0	2	7,4	27	100	6	0,000
Fair	2	11,8	15	88,2	3	0	0	0	17	100		
Poor	0	0	7	70,0	3	30	0	0	10	100		

Based on Table 4 above, it is known that among 27 respondents with good knowledge, the majority of respondents who had children under five with good nutritional status were 21 people (77.8%), while the minority of respondents who had children under five with overnutrition were 2 people (7.4%). Among 17 respondents with sufficient knowledge, all respondents who had children under five with good nutritional status were 2 people (11.8%). Among 10 respondents with poor knowledge, the majority of respondents who had children under five with undernutrition were 7 people (70%), while the minority of respondents who had children under five with severe malnutrition were 3 people (30%).

The results of the bivariate analysis from Table 4.2 above show a comparison between the chi-square p-value and α , where the p-value = 0.000, while $\alpha = 0.05$ with $df = 6$. The conclusion from the table above, based on the comparison between the chi-square p-value and α , indicates that $p\text{-value} > \alpha$ ($0.000 > 0.05$); therefore, H_0 is rejected and H_a is accepted. Thus, there is a relationship between mothers' knowledge about nutritional needs and the nutritional status of children under five.

The Relationship between Mothers' Attitudes toward Dietary Patterns and the Nutritional Status of Children Under Five

The results of data collection were obtained through questionnaires distributed to respondents in this study using primary data on the relationship between mothers' attitudes toward dietary patterns and the nutritional status of children under five in Saitnihuta Village, Doloksanggul Subdistrict, Humbang Hasundutan Regency, in 2025, as presented in the following table:

Table 5. Relationship between Mother's Attitudes about Diet and Nutritional Status of Toddlers

Attitude	Nutritional Status in Toddlers										df	P-Value
	Good		Underweight		Severely Underweight		Overweight		Total			
	n	%	n	%	n	%	n	%	N	%		
Positive	22	57,9	14	36,8	0	0	2	5,3	38	100	3	0,000
Negative	1	6,3	12	75	3	18,8	0	0	16	100		

Based on Table 5 above, it is shown that among 38 respondents with a positive attitude, the majority of respondents who had toddlers with good nutritional status were 22 people (57.9%), while the minority of respondents who had toddlers with overweight nutritional status were 2 people (5.3%). Among 16 respondents with a negative attitude, the majority of respondents who had toddlers with underweight nutritional status were 12 people (75%), while the minority of respondents who had toddlers with good nutritional status were 1 person (6.3%).

The results of the bivariate analysis in Table 4.3 above show a comparison between the chi-square p-value and α , where the p-value = 0.000 and $\alpha = 0.05$ with df = 3. Based on the comparison between the chi-square p-value and α , it is known that p-value < α (0.000 < 0.05); therefore, H_0 is rejected and H_a is accepted. Thus, there is a relationship between mothers' attitudes toward nutritional needs and the nutritional status of toddlers.

The Relationship between Mothers' Practices Regarding Dietary Patterns and the Nutritional Status of Toddlers

The data were collected through questionnaires distributed to respondents in this study using primary data on the relationship between mothers' practices regarding dietary patterns and the nutritional status of toddlers in Saitnihuta Village, Doloksanggul Subdistrict, Humbang Hasundutan Regency, in 2025, as presented in the following table:

Table 5. Relationship between Mother's Actions regarding Dietary Patterns and the Nutritional Status of Toddlers

Practices	Nutritional Status of Toddlers										df	P-Value
	Good		Underweight		Severely Underweight		Overweight		Total			
	n	%	n	%	n	%	n	%	N	%		
Appropriate	23	69,7	8	24,2	0	0	2	6,1	33	100	3	0,000
Inappropriate	0	0	18	85,7	3	14,3	0	0	7	100		

Based on Table 5 above, it is known that among 33 respondents who practiced good feeding practices, the majority of respondents who had toddlers with good nutritional status were 23 people (69.7%), while the minority of respondents who had toddlers with overweight nutritional status were 2 people (6.1%). Among 21 respondents who practiced poor feeding practices, the majority of respondents who had toddlers with underweight nutritional status were 18 people (85.7%), while the minority of respondents who had toddlers with severely underweight nutritional status were 3 people (14.3%).

The results of the bivariate analysis in Table 4.4 above show a comparison between the chi-square p-value and α , where the p-value = 0.000 and $\alpha = 0.05$ with df = 3. Based on the comparison between the chi-square p-value and α , it is known that p-value < α (0.000 < 0.05); therefore, H_0 is rejected and H_a is accepted. Thus, there is a relationship between mothers' practices regarding nutritional needs and the nutritional status of toddlers.

Discussion

The Relationship Between Mothers' Knowledge of Dietary Patterns and the Nutritional Status of Toddlers

Based on the chi-square test, it was found that the p -value $< \alpha$ ($0.000 < 0.05$), which means that H_0 is rejected and H_a is accepted. Therefore, there is a relationship between mothers' knowledge of dietary patterns and the nutritional status of toddlers in Saitnihuta Village, Doloksanggul Subdistrict, Humbang Hasundutan Regency, in 2025.

The results of this study are in line with the study conducted by Jayanti (2005), which found a relationship between mothers' knowledge and the nutritional status of toddlers using the chi-square test. The findings indicate that the higher a mother's knowledge about nutritious food, the greater the likelihood that the nutritional status of her toddler will be better. Similarly, previous research showed that mothers' knowledge about nutrition and feeding practices was associated with the nutritional status of toddlers in Srimulyo Village, within the working area of Piyungan Public Health Center, Bantul, in 2022.

Based on the questionnaire results, 38 respondents with good knowledge had toddlers with good nutritional status. This condition occurred because mothers with good knowledge understood the nutritional needs of toddlers, recognized the benefits of nutritious food, and were aware of the appropriate frequency, quantity, and types of food intake needed to support toddlers' growth and development. Meanwhile, four respondents with good knowledge had toddlers with undernutrition, which was caused by mothers' lack of understanding of appropriate feeding patterns for their children. Two respondents with good knowledge had toddlers with overnutrition, which was attributed to mothers' perception that a chubby child is healthy and appealing to the family.

Among respondents with sufficient knowledge, two had toddlers with good nutritional status, which was influenced by mothers' prior experience in raising children. However, 15 respondents with sufficient knowledge had toddlers with undernutrition, which occurred because mothers were unable to provide adequately nutritious food and lacked skills in proper food preparation for their children.

Among respondents with poor knowledge, seven had toddlers with undernutrition due to mothers' lack of understanding of food processing and the benefits of nutritious food. Additionally, three respondents with poor knowledge had toddlers with severe malnutrition, which was caused by mothers' limited understanding of proper nutrition, inadequate food preparation skills, low socioeconomic status, and the direct influence of mothers' practices on toddlers' nutritional conditions.

Of the respondents with good knowledge (27 people), most were able to correctly understand appropriate nutrition for toddlers. Among respondents with sufficient knowledge (17 people), mothers had limited understanding and showed low interest in learning more about appropriate feeding patterns. Respondents with poor knowledge (10 people) were influenced by factors such as low education level, income, occupation, and lack of family support. These findings are consistent with the theory that in order to prepare a proper diet, a mother must have adequate knowledge about food ingredients, nutrients, nutritional requirements, and food processing methods (Santoso et al., 2024).

According to the researcher's assumption, there is a relationship between mothers' knowledge of dietary patterns and toddlers' nutritional status. Mothers with good knowledge are more capable of providing and preparing nutritious food for toddlers. Adequate food intake that meets toddlers' nutritional needs can support optimal nutritional status. However, in addition to maternal knowledge, other important factors influencing child nutrition include economic conditions, family support, food availability, and other related factors.

The researcher also assumes that some mothers with good knowledge still have toddlers with overnutrition.

The Relationship Between Mothers' Behavior in Feeding Patterns and Nutritional Nutrition of Toddlers Aged 3-5 Years. Debora Natalia Simamora et.al

This indicates that maternal knowledge alone does not solely determine toddlers' nutritional status, and therefore strong support from family members and health workers is highly expected.

A healthy dietary pattern is an effort to regulate food consumption, including the amount, type, and composition of food according to the body's needs. The purpose of implementing a healthy diet is to maintain overall health, achieve optimal nutritional status, prevent disease, and support recovery from illness. Daily dietary patterns reflect habitual food consumption practices carried out routinely and are strongly influenced by culture, environment, and individual nutritional knowledge (Ministry of Health of the Republic of Indonesia, 2022; WHO, 2020).

The Relationship between Mothers' Attitudes toward Dietary Patterns and the Nutritional Status of Toddlers

Based on the chi-square test, it was found that the $p\text{-value} < \alpha$ ($0.000 < 0.05$), which means that H_0 is rejected and H_a is accepted. Thus, there is a relationship between mothers' attitudes toward dietary patterns and the nutritional status of toddlers in Saitnihuta Village, Doloksanggul Subdistrict, Humbang Hasundutan Regency, in 2025.

The results of this study are consistent with the findings of Wijayanti (2023), who reported a relationship between mothers' attitudes and the nutritional status of toddlers based on a chi-square test. The study indicated that the more positive a mother's attitude toward nutritious food, the greater the likelihood that her toddler will have a better nutritional status. However, some mothers still demonstrated negative attitudes because they only received nutrition counseling without being encouraged or facilitated to explore their feelings and perceptions regarding nutrition for their toddlers.

Similarly, Kurniasih (2020) also found a relationship between mothers' attitudes and toddlers' nutritional status using a chi-square test. Mothers with negative attitudes were encouraged to improve their attitudes through nutrition promotion activities, or through incentive-based interventions, in order to motivate them to provide better-quality food for their children.

Based on the questionnaire results, 22 respondents with positive attitudes had toddlers with good nutritional status. This condition occurred because mothers with positive attitudes and good knowledge understood toddlers' nutritional needs, recognized the benefits of nutritious food, and were aware of the appropriate frequency, quantity, and types of food intake required to support toddlers' growth and development. Fourteen respondents with positive attitudes had toddlers with undernutrition, which was caused by mothers' lack of understanding of appropriate feeding patterns. Meanwhile, two respondents with positive attitudes had toddlers with overnutrition, which was attributed to children's high appetite and frequent consumption of snacks.

Among respondents with negative attitudes, one had a toddler with good nutritional status due to strong family support in monitoring the child's nutrition. Twelve respondents with negative attitudes had toddlers with undernutrition, which occurred because mothers did not realize the importance of fulfilling their children's nutritional needs. Additionally, three respondents with negative attitudes had toddlers with severe malnutrition, which was caused by low maternal awareness of nutritional needs and inadequate food preparation practices for toddlers.

Of the 38 respondents who had positive attitudes, most were attentive to their children's health and regularly visited integrated health posts (posyandu). In contrast, 16 respondents with negative attitudes tended to pay less attention to health issues, particularly their toddlers' health. These mothers were also less capable of preparing nutritious food due to economic constraints and low household income.

Children's eating behavior is influenced by various factors, including psychological conditions, health status,

and the surrounding social environment. The family environment and the attitudes of parents or caregivers play an important role in creating a safe and comfortable eating atmosphere for children. Emotional support and positive parenting practices within the family can help reduce children's anxiety related to food, thereby encouraging the development of healthy eating habits (UNICEF, 2021; WHO, 2022).

According to the researcher's assumption, there is a relationship between mothers' attitudes toward dietary patterns and toddlers' nutritional status. Mothers with positive attitudes are more likely to recognize the benefits of fulfilling toddlers' nutritional needs and strive to provide adequate nutrition. Conversely, mothers with negative attitudes tend to underestimate the importance of nutritional fulfillment in supporting toddlers' growth and development.

However, the researcher also assumes that mothers with positive attitudes do not necessarily always provide appropriate nutrition. Some respondents had toddlers with overnutrition, which may be due to mothers' busy work schedules that limit their time to monitor and manage balanced nutrition for their children. Furthermore, the researcher assumes that low maternal awareness is influenced by educational factors, making mothers less motivated and less skilled in processing available food ingredients for their children. Nutritious food does not necessarily have to be expensive; affordable and easily accessible food ingredients can also meet children's nutritional needs if processed appropriately.

The Relationship between Mothers' Practices Regarding Dietary Patterns and the Nutritional Status of Toddlers

Based on the chi-square test, it was found that the $p\text{-value} < \alpha$ ($0.000 < 0.05$), which means that H_0 is rejected and H_a is accepted. Thus, there is a relationship between mothers' practices regarding dietary patterns and the nutritional status of toddlers in Saitnihuta Village, Doloksanggul Subdistrict, Humbang Hasundutan Regency, in 2025.

The findings of this study are consistent with the study conducted by Wijayanti (2023), which reported a significant relationship between mothers' practices and the nutritional status of toddlers based on the chi-square test. The study suggested that simulation-based nutrition education for mothers is needed to improve feeding practices for toddlers. Similarly, Kurniasih (2020) also found a relationship between mothers' practices and toddlers' nutritional status using the chi-square test. The study emphasized the importance of conducting nutrition simulations to enhance mothers' feeding practices for toddlers.

Based on the questionnaire results, among respondents who practiced good feeding practices, 23 respondents had toddlers with good nutritional status. This was because mothers provided nutritious food that is essential for supporting toddlers' growth and development, supported by good knowledge and positive attitudes. In addition, mothers provided appropriate meal frequency and portion sizes according to toddlers' nutritional requirements. Eight respondents who practiced good feeding practices had toddlers with undernutrition, which occurred because mothers lacked understanding of appropriate feeding patterns for their children. Two respondents who practiced good feeding practices had toddlers with overnutrition, which was attributed to hereditary factors resulting in children being naturally overweight.

Among respondents who practiced poor feeding practices, five had toddlers with undernutrition due to mothers' lack of skills in preparing nutritious food for their children. Three respondents who practiced poor feeding practices had toddlers with severe malnutrition, which occurred because inadequate maternal practices directly affected the child's nutritional condition.

The results showed that 33 respondents practiced good feeding practices, which was influenced by their regular participation in integrated health post (posyandu) activities. Through these activities, respondents gained experience from health education sessions, nutritional information, and food preparation simulations

for toddlers. In contrast, 21 respondents who practiced poor feeding practices tended to be less concerned about health issues and showed low interest in seeking important health-related information.

These findings are consistent with concepts emphasizing that in daily menu planning, mothers should pay attention to regular meal times, including breakfast, lunch, and dinner. Each meal should be planned carefully to provide balanced macro- and micronutrients that meet the body's nutritional needs. Proper meal planning based on meal timing plays an important role in supporting health and nutritional status, especially in children (Ministry of Health of the Republic of Indonesia, 2022; WHO, 2020).

According to the researcher's assumption, undernutrition in some toddlers may be caused by recurrent illness over several months, while overnutrition may result from frequent consumption of snacks outside the home without parental supervision or awareness. The researcher also assumes that family support, particularly from fathers, plays an active role in monitoring children's nutritional intake. Good maternal practices, supported by family involvement, can positively influence the nutritional status of toddlers. According to the researcher's assumption, the mother's actions regarding good nutrition will support the nutritional status of toddlers, but other factors also support a toddler.

4. Conclusion

Based on the research results and statistical tests, the following conclusions were obtained: There is a relationship between maternal knowledge about dietary patterns and the nutritional status of toddlers. There is a relationship between maternal attitudes about dietary patterns and the nutritional status of toddlers. There is a relationship between maternal actions regarding dietary patterns and the nutritional status of toddlers. Recommendations Based on the results of the research conducted on "The Relationship between Maternal Behavior regarding Dietary Patterns and the Nutritional Status of Toddlers in Saitnihuta Village, Doloksanggul District, Humbanga Hasundutan Regency in 2025," the following recommendations are made: For Respondents, It is hoped that mothers with toddlers will have a better understanding of healthy dietary patterns for toddlers, which can support their growth and development, and the active role of the community in supporting health services. For Health Workers, It is hoped that health workers in Saitnihuta Village will pay special attention to families experiencing nutritional problems in toddlers to improve children's health and well-being.

5. References

- Alimul Aziz, 2008. Ilmu Kesehatan Anak, Salemba Medika, Jakarta.
- Arikunto, Suharsimi, 2006. Prosedur Penelitian Suatu Pendekatan Praktik. Rineke Cipta, Jakarta.
- Arisman Dr, 2017. Gizi dalam daur Kehidupan. EGC, Cetakan III, Jakarta
- Azhar, Chairul, 2010. Manajemen Data, Bamboedoea Comunication. Medan
- Depkes RI, 2007. Pedoman Pelaksanaan Stimulus, Deteksi dan Intervensi Dini Tumbuh Kembang Anak di Tingkat Pelayanan Kesehatan Dasar. Jakarta
- Endang, 2011. Kebutuhan Gizi Balita. Available: [www/http://digilid.unnnes.ac.id](http://digilid.unnnes.ac.id) (Acessed:12 Desember 2014).
- Francin, Erna, dkk, 2005 Gizi Dalam Kesehatan Reproduksi. EGC, Cetakan I, Jakarta.
- FAO, IFAD, UNICEF, WFP, & WHO. (2022). *The State of Food Security and Nutrition in the World*. Rome: FAO.
- Hidayat, 2005, Daur Kehidupan. EGC, Jakarta.
- Kementerian Kesehatan Republik Indonesia. (2020). *Profil Kesehatan Indonesia*. Jakarta: Kemenkes RI.
- Kementerian Kesehatan Republik Indonesia. (2022). *Pedoman Gizi Seimbang*. Jakarta: Kemenkes RI.

- Kurniasih, 2020. Hubungan Perilaku Ibu Tentang Nutrisi dengan Status Gizi Balita di Wilayah Kerja Pukesmas Jabung Kabupaten Malang
- Notoatmodjo, Soekidjo, 2020. Ilmu Perilaku Kesehatan, Rineka Cipta, Jakarta
- Proverawati, dkk, 2009. Gizi Untuk Kebidanan. Nuha Medika, Cetakan I, Yokyakarta
- Profil Dinas Kesehatan Kabupaten Humbang Hasundutan Tahun 2023
- Sibagariang, Eva, dkk, 2020. Kesehatan Reproduksi Wanita. Penerbit Trans Infon Media, Jakarta
- Sudjana, 2019, Statistika Kedokteran, EGC, Jakarta
- Sudjana, 2007, Pengantar Statistika Kesehatan. EGC. Jakarta
- UNICEF. (2021). *The State of the World's Children: Nutrition*. New York: UNICEF.
- World Health Organization. (2021). *Guideline on Nutrition for Children under Five Years*. Geneva: WHO.
- Waryana, 2010. Gizi Reproduksi. Pustaka Rihama, Cetakan I, Yokyakarta
- Wahyuni, Arlinda Sari, 2010. Statistika Kedokteran, Bamboedoe Comunication, Jakarta Timur.
- Wijayanti, Amalia, 2023. Hubungan Pengetahuan Sikap dan Tindakan Ibu Balita dengan Status Gizi Balita di Kabupaten Semarang Tahun 2005.