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# The Relationship Between The Level Of Protein And Carbohydrate Adequacy, The Activity Of Weighing, The Level Of Maternal Knowledge With Nutritional Status In Toddlers Aged 12-59 Months In Ulak Rengas Village, Abung Tinggi Sub-District, North Lampung District

Rara Qory Archela<sup>1</sup>, Alifiyanti Muharramah<sup>1</sup>, Abdullah<sup>1</sup>, Masayu Dian Khairani<sup>1</sup> <sup>1</sup>Universitas Aisyah Pringsewu, Lampung, Indonesia

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*Corresponding Author* : Rara Qory Archela E-mail : archelagory@gmail.com

## ABSTRACT

Background & Objective: Nutritional status is a reflection of the size of the fulfillment of nutritional needs obtained from the intake and use of nutrients by the body. One of the factors that affect nutrition in toddlers is the level of parental education. The purpose of this study was to determine the relationship between the level of protein and carbohydrate adequacy, the activeness of weighing, the level of maternal knowledge with nutritional status in toddlers aged 12-59 months in Ulak Rengas Village, Abung Tinggi District, North Lampung Regency in 2024. Method: The type of research used was quantitative with a cross sectional design. Data collection was done by interview using a structured questionnaire and 2x24 hour food recall. The population in this study were mothers and toddlers 12-59 months, while the samples taken were 44 mothers and toddlers. Bivariate analysis in this study used the Gamma test. **Result:** The results obtained  $\rho$  value 0.001 < 0.05 which means there is a relationship between the level of protein adequacy with the nutritional status of toddlers aged 12-5h9 months,  $\rho$  value <.001 <  $\alpha$  (0.05) there is a relationship between the level of carbohydrate adequacy with the nutritional status of toddlers aged 12-59 months,  $\rho$  value 0.854 <  $\alpha$  (0.05) there is no relationship between weighing activity with the nutritional status of toddlers aged 12-59 months, the results of  $\rho$  value 0.854 <  $\alpha$  (0.05) there is a relationship between the level of maternal knowledge with the nutritional status of toddlers aged 12-59 months. Conclusion: Answering the research objectives. Should consist of There is a relationship between the level of maternal knowledge and the nutritional status of toddlers aged 12-59 months.

#### Introduction

Nutritional status is a reflection of the size of the fulfillment of nutritional needs obtained from the intake and use of nutrients by the body (Nasar, 2017). The most common nutritional problem in Indonesia is malnutrition. Patients due to malnutrition or including one of the groups of people who are vulnerable to nutrition are children aged 0-5 years (Irianti, 2016). Where toddlers are the age group that most often suffers from malnutrition (Notoatmodjo, 2010). Based on the Global Nutrition Report (2018) Indonesia is included in 17 countries that have 3 nutritional problems, namely stunting (short), wasting (thin), and overweight (obese).

One of the factors affecting nutrition in toddlers is the level of parental education (Marmi, 2014). The type of food consumed both in quality and quantity (Irianti, 2016). According to UNICEF (United Nation of Children and Education Federation) more than 1 million children are severely underweight, which is the fourth highest burden in the world. This is not surprising given that most children aged 6 months to 2 years are not getting enough food for their growth and brain development. UNICEF data (2012) shows that an estimated 25% or 162 million children worldwide are malnourished, while in Indonesia 36% of under-fives are malnourished. Undernutrition is one of the main nutritional problems in children under five in Indonesia. The prevalence of undernutrition and malnutrition begins to increase at the age of 6-11 months and peaks at the age of 12-23 months and 24-35 months (UNICEF, 2012).

Based on the results of the Basic Health Research (2018), Indonesia has a percentage of nutritional status of underweight toddlers of 10.2%. In the Nutrition Status Monitoring (2017), the percentage of nutritional status of very thin toddlers is 2.8% and the nutritional status of thin toddlers is 6.7%. In Lampung Province, the prevalence of LBW nutritional status in toddlers aged 0-59 months was 10.8%, while in North Lampung District the percentage of very thin toddlers was 2.49% and fat toddlers 8.86% (Riskesdas, 2018). Based on the results of the UPTD Puskesmas Ulak Rengas report data (2023) for the coverage results in Ulak Rengas Village, underweight BB / TB is 1.08%, stunting TB / U 0.12%, underweight BB / U 0.97%.

According to the health status situation of the Ulak Rengas Health Center (2023), nutritional achievements show that most mothers' knowledge about nutrition is lacking and the history of not providing exclusive breastfeeding is (19%) so that there is a relationship between maternal knowledge about nutrition, family income, number of family members, eating habits. The level of maternal knowledge about nutrition greatly affects the nutritional state of toddlers (Sundari, 2020). Pramesti's research (2019) shows a significant relationship between maternal nutritional knowledge and nutritional status based on the anthropometric index BB / TB. The results of Nurmaliza's research (2018) also showed a relationship between knowledge and the nutritional status of toddlers. A mother has insufficient nutritional knowledge, so the food intake that will be given to toddlers is also inappropriate and can affect the status of the toddler (Purpasari, 2017).

The influencing factors are diarrheal disease, fever, gender and maternal employment status, while the most influential factor is maternal employment status (Prawesti, at all 2018). The major impact that occurs in toddlers is that it can increase the risk of child morbidity and mortality. If this situation continues, the quality of human resources is greatly affected and reduces intelligence, productivity and creativity (Hendrayati, et al 2013). Food intake is a nutrient consumed by the body to perform activities and achieve optimal health. The energy needed comes from the nutrients consumed, namely carbohydrates, protein and fat (Hendrayati et al, 2013). The results of Putri's research (2013) showed a relationship between protein intake and incidence. Sawitri's research (2019) showed a significant relationship between carbohydrate intake and incidence in toddlers.

The level of participation in posyandu in an area can be measured by looking at the ratio between the number of children under five in the posyandu work area (S) and the number of children under five who are weighed at each posyandu activity (D). With the high activity of weighing coming to the posyandu, it will be very easy to find out the existence of toddlers who have nutritional status problems and the faster the efforts are made to handle and overcome them (Ministry of Health of the Republic of Indonesia, 2013). According to research data from the North Lampung District Health Office (2012), D/S coverage data for children under five reached 55.6%, which has not yet reached the 2012 MDGs target (80%), so it is said that community participation in monitoring growth and weight development is still low.

Based on the target of the toddler weighing program (D/S) at Puskesmas Ulak Rengas in 2020 of 55.8% is lower when compared to 2019 of 80.5%. Data from the monthly report of the Ulak Rengas Health Center from January to December 2020, shows that D / S coverage in Ulak Rengas Village is lower than the other 2 villages in the Ulak Rengas Health Center working area, namely 54%. In Theresia's research (2020) showed a relationship between the number of maternal visits to the posyandu and the nutritional status of toddlers in the Amplas Pusksmas working area and in Dewi et al's research (2018) also showed a relationship between the liveliness of weighing with nutritional status, where the level of attendance plays an important role in the nutritional status of children under five.

Based on the description above, the authors are interested in examining and knowing the relationship between the level of protein and carbohydrate adequacy, the activeness of weighing, the level of maternal knowledge with the nutritional status of bb / b in toddlers aged 12-59 months in Ulak Rengas village, Abung Tinggi sub-district, North Lampung district in 2024.

## Objective

The purpose of this study was to determine the relationship between the level of protein and carbohydrate adequacy, the activity of weighing, the level of maternal knowledge with nutritional status in toddlers aged 12-59 months in ulak rengas village, abung tinggi sub-district, north lampung district in 2024.

## Method

The type of research used was quantitative with a cross sectional design. Data collection was done by interview using a structured questionnaire and 2x24 hour food recall. The population in this study were mothers and toddlers 12-59 months, while the samples taken were 44 mothers and toddlers. Bivariate analysis in this study used the Gamma test.

# Results

#### **Respondent Characteristics**

The results of this study used a sample of 44 respondents of mothers and their toddlers who actively came to the posyandu in Ulak Rengas Village. The results of the characteristics of respondents in this study can be seen in Table 1.

No	Characteristics	N	%
1	Gender		
	Male	22	50
	Female	22	50
2	Age		
	12-24 Months	20	45,5
	24-36 Months	5	11,4
	36-48 Months	12	27,3
	48-59 Months	6	13,6
	59 Months	1	2,3
3	Mother's Education		
	Junior High School	7	15,9
	Senior High School	34	77,3
	College	3	6,8
	Total	44	100

**TABLE 1.** Frequency Distribution of Respondent Characteristics

Source: Primary Data 2024

Table 1 describes that most of the toddler respondents were male, namely 22 respondents (50%) the same as the female toddler respondents, most of the respondents were 12-24 months old, namely 20 toddler respondents (45.5%) and most of the respondent mothers had a high school education, namely 34 respondents (93.2%).

Nutritional Status of Toddlers

**TABLE 2.** Frequency distribution of respondents based on nutritional status BB/TB of toddlers 12-59 months old

No	Nutrition Status	Ν	%
1	Undernourished	8	18,2
2	Good Nutrition	35	79,5
3	At Risk of Over Nutrition	1	2,3
	Total	44	100

Source: Primary Data 2024

Table 2 describes that the distribution of nutritional status of wasting toddlers 12-59 months of toddler respondents with good nutritional status as many as 35 respondents (79.5%) and toddler respondents with nutritional status less as many as 8 respondents (18.2%) while toddlers with nutritional risk status more as much as 1 respondent (2.4%).

Protein Adequacy Level

TABLE 5. Frequency distribution of respondents based on Frotent Adequacy Lever								
No	Protein Adequacy	Ν	0⁄0					
	Level							
1	Less	5	11,4					
2	Good	34	77,3					
3	More	5	11,4					
	Total	44	100					

TABLE 3. Frequency distribution of respondents based on Protein Adequacy Level

Source: Primary Data 2024

Table 3. Describes that the distribution of protein adequacy levels in toddlers 12-59 months has a good protein adequacy level of 28 respondents (63.6%), less as many as 11 respondents (25%) and more 5 respondents (11.4%).

Carbohydrate Adequacy Level

**TABLE 4.** Frequency distribution of respondents based on carbohydrate adequacy

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No	Carbohydrate Adequacy Level	n	%
1	Less	10	22,7
2	Good	31	70,5
3	More	3	6,8
Total		44	100

Source: Primary Data 2024

Table 4. Describes that the distribution of protein adequacy levels in toddlers 12-59 months has a good protein adequacy level of 31 respondents (70.5%), less as many as 10 respondents (22.7%) and more 3 respondents (6.8%).

Weighing Activity

**TABLE 5.** Frequency distribution of respondents based on weighing activity

No	Weighing Activity	n	%
1	Inactive	33	75
2	Active	11	25
Total		44	100

Source: Primary Data 2024

Table 5 describes that the distribution of active weighing in toddlers 12-59 months shows toddler respondents who have active weighing, namely 11 respondents (25%) and inactive weighing 37 respondents (75%).

#### Mother's Knowledge Level

No	Mother's Knowledge Level	n	%
1	Less	16	36,4
2	Good	28	63,6
	Total	44	100

**TABLE 6.** Frequency distribution of respondents based on mother's knowledge level

Source: Primary Data 2024

Table 6. Describes that the distribution of maternal knowledge level has a good level of knowledge, namely 28 respondents (63.6%) and a poor level of knowledge, namely 16 respondents (36.4%).

Relationship between protein adequacy level and nutritional status

Nutrition Status									
Protein Adequacy Level	Undernourished		Good Nutrition		At Risk of Over Nutrition		Т	otal	Pvalue
	n	%	n	%	n	%	n	%	
Less	5	100	0	0	0	0	0	100	
Good	3	8,8	31	91,2	0	0	34	100	0,001
More	0	0	4	11,4	1	2,3	4	100	
Total	8	22,7	35	77,3	1	2,3	44	100	

**TABLE 7.** Relationship between protein adequacy level and nutritional status

Source: Primary Data 2024

Table 7 shows that respondents under five who have a level of protein adequacy less with good nutritional status as many as 3 respondents, compared slightly with respondents underweight toddlers as many as 5 respondents. Respondents who have a good protein adequacy level with good nutritional status are 31 respondents, respondents who have more protein adequacy levels with good nutritional status are 4 respondents while respondents who have more protein adequacy levels with more nutritional status are 1 respondent. The calculation results after the Gamma test get a  $\rho$  value of 0.001 so that the p value <  $\alpha$  (0.05) which means it shows the relationship between protein adequacy levels with nutritional status of wasting toddlers 12-59 months in the village of ulak rengas.

Relationship between Carbohydrate Adequacy Level and nutritional status
<b>TABLE 8.</b> Relationship between carbohydrate sufficiency level and nutritional status

Nutrition Status									
Carbohydrate Adequacy Level	Undernourished		Good Nutrition		At Risk of Over Nutrition		of Over <b>Total</b>		Pvalue
	n	%	n	%	n	%	Ν	%	
Less	7	70	3	30	0	0	10	100	4 001
Good	1	3.2	30	96,8	0	0	31	100	<,001
More	0	0	2	66,7	1	3,3	4	100	
Total	8	22,7	35	77,3	1	2,3	44	100	

Available on : https://genius.inspira.or.id/index.php/indogenius

#### Source: Primary Data 2024

Table 8 shows that toddler respondents who have insufficient levels of carbohydrate with good nutritional status are 3 while toddler respondents are malnourished as many as 7 respondents. Respondents who have a good protein adequacy level with good nutritional status as many as 30 reaponden more than respondents who have a protein adequacy level less with nutritional status less as much as 1 respondent. Respondents who have more protein adequacy levels with good nutritional status are 2 and toddlers with more nutritional status are 1 respondent. The results of the calculation after the Gamma test obtained a value of  $\rho$  value <.001 so that the p value <  $\alpha$  (0.05) which means it shows the relationship between the level of carbohydrate adequacy with the nutritional status of wasting toddlers 12-59 months in the village of ulak rengas.

<b>TABLE 9.</b> Relationship between weighing activity and nutritional status									
		Nuti	ritior	Status	•				
Liveliness of Weighing	Unde	rnourished	Goo Nut	od trition	of	: Risk Over trition	Т	otal	Pvalue
Not Active	n	%	n	%	n	%	n	%	
Active	6	18,2	26	78,8	1	3	33	100	
Liveliness of Weighing	2	18,2	9	81,8	0	0	11	100	0,854
Total	8	18,2	35	79 <i>,</i> 5	1	2,3	44	100	

Relationship between weighing activity and nutritional status

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Source: Primary Data 2024

Table 9 shows that toddler respondents who have inactive weighing activities with poor nutritional status are 6 respondents compared to toddler respondents who have good nutritional status, namely 26 respondents and respondents with more risk status as many as 1 respondent. Respondents under five who have active weighing with a nutritional status of less is 2 respondents compared to a little with a good nutritional status of 6 respondents and respondents with a status at risk more as much as 0 respondents. The calculation results after the Gamma test get a  $\rho$  value of 0.854 so that the p value>  $\alpha$  (0.05) which means it shows there is no relationship between the Activeness of Weighing with the nutritional status of wasting toddlers 12-59 months in the village of ulak rengas.

	Wasting Nutrition Status								
Mother's Knowledge Level	Undernourished		Good Nutrition		At Risk of Over Nutrition		Over <b>Total</b>		Pvalue
Rilowicage Level	n	%	n	%	n	%	n	%	
Less	7	43,8	9	56,3	0	0	16	100	0,001
Good	1	3,6	26	92,9	1	3,6	28	100	3,002
Total	8	18,2	35	79,5	1	2,3	44	100	

Relationship betw	ween maternal kno	owledge level ar	nd nutritional status

**TABLE 10.** Relationship between maternal knowledge level and nutritional status

Source: Primary Data 2024

Table 10 shows that respondents of mothers of toddlers who have a lack of knowledge with good nutritional status are 11 respondents, compared to respondents of underweight toddlers as many as 9 respondents. Respondents who have a good level of knowledge with good nutritional status as many as 23 reaponden more than respondents who have a level of protein adequacy less with nutritional status less as much as 1 respondent. The results of the calculation after the Gamma test get a  $\rho$  value of 0.001 so that the p value <  $\alpha$  (0.05) which means it shows the relationship between the level of maternal knowledge with the nutritional status of wasting toddlers 12-59 months in the village of ulak rengas.

## Discussion

#### Characteristics of Respondents

Characteristics of respondents of toddlers and mothers of toddlers in the village of ulak rengas respondents of toddlers of the same sex as female respondents, namely 22 respondents (50%), most respondents aged 12-24 months, namely 20 respondents of toddlers (45.5%) and most respondents of mothers of toddlers have high school education, namely 34 respondents (93.2%).

The characteristics of respondents in this research sample are individual characteristics that include gender, age of toddlers and mother's education. In this study, the characteristics of male and female gender had the same number, namely 22 respondents under five. Gender is also a factor in the difference in measurement results, because growth patterns have differences from birth between men and women according to (Rahmad & Fadilah, 2023). In this study, the age of the toddler respondents was 20 respondents aged 12-24 months, in addition to gender the age factor is also a very important factor to determine and see nutritional status (Ariani S, 2024). In this study, respondents of mothers of toddlers who had high school education were 34 respondents. According to (Tazinya et al., 2018) in (Shaputri & Dewanto, 2023) the importance of maternal education on the nutritional status of children. Maternal education will have an impact on investing in quality human resources, because increasing maternal education will improve nutritional status in toddlers.

#### Nutritional status BW/TB

The nutritional status of BW/TB in respondents aged 12-59 months who had undernutrition was 8 respondents (18.2), good nutrition was 35 respondents (79.5%) and at risk of overnutrition was 1 respondent (2.3%). LBW nutritional status usually occurs when the child's dietary intake is inadequate both in terms of quality and quantity and/or the child often suffers from infectious diseases (UNICEF, 2023).

# Protein Adequacy Level

The level of protein adequacy in toddler respondents who had a level of protein adequacy was less as many as 5 respondents (11.4%), the level of protein adequacy was good 34 respondents (77.3%) and the level of protein adequacy was more as many as 5 respondents (11.4%). Protein as the main constituent of all body cells is a chain of amino acids joined by peptide bonds that play an important role in overcoming various problems in the human body. The function of protein is to form enzymes and hormones as well as blood cells, and make antibodies (Harton, et al., 2011) in (Wulandari, 2020). Protein requirements at birth to 1 year of age are very high due to the speed of child growth according to Nassar (2017).

## Carbohydrate Adequacy Level

The level of carbohydrate adequacy in toddler respondents who had a level of carbohydrate adequacy was less as many as 10 respondents (22.7%), the level of carbohydrate adequacy was good 34 respondents (70.5%) and the level of carbohydrate adequacy was more as many as 3 respondents (6.8%). Carbohydrates are the main source of energy for humans and animals. carbohydrate functions as a supplier of brain and nerve energy, metabolic regulators, and carbohydrates are the main nutrients that supply energy for the body so that it can carry out its activities. Carbohydrates are needed in every life cycle to produce energy, especially in toddler age where the level of play activity is high and requires energy for brain development (Perdana, et al, 2019) in (Abdullah & Rezky, 2023).

## Weighing Activity

Weighing activeness in toddler respondents who have inactive weighing activeness as many as 33 respondents (75%) more than active weighing activeness as many as 11 respondents (25%). weighing activeness is the number of toddlers who come and are weighed at the posyandu which illustrates the amount of community participation in posyandu activities, the low number of toddlers who come and are weighed at the posyandu is due to, among others, education, level of public knowledge about health and nutrition, economic, social and cultural factors. This is reinforced by research by Theresia (2020) that there is a relationship between maternal visits to the posyandu and the nutritional status of toddlers because the more routine the mother comes to the posyandu, the nutritional status will be good too.

# Mother's Knowledge Level

The level of maternal knowledge in respondents of mothers of toddlers who have a lack of knowledge is 16 respondents (36.4%) and respondents who have good knowledge are 28 respondents (63.6%). The mother's level of nutritional knowledge is very important in determining the composition of a healthy food menu given to her child (Notoatmojo, 2012). Toddlerhood is characterized by rapid growth and

development accompanied by changes in nutritional needs, during this period the toddler depends entirely on the care and feeding of his mother.

Relationship between protein adequacy level and nutritional status

The results of statistical tests using the gamma test with the results of the  $\rho$  value of 0.001 <  $\alpha$  (0.05) which means that there is a relationship between the level of protein adequacy with the nutritional status of BW / TB for toddlers aged 12-59 months in the village of ulak rengas. In this study respondents who had a good protein adequacy level with good nutritional status were 34 respondents (77.3%). The results of this research are the same as research conducted by Andayani & Afduhazi (2022) that there is a relationship between food intake and nutritional status in toddlers, seen in the univariate analysis table there are respondents with insufficient protein adequacy levels with poor nutritional status as many as 5 respondents (11.4%) this shows that there are still toddlers getting insufficient protein adequacy, in contrast to the results of the above research, research by Kezia & Susanti (2022) in Tomang village with a sample of 155 children aged 24-60 months stated that there was no relationship between protein adequacy and nutritional status based on BB / TB.

This is also shown based on the results of the field there are still toddlers who are given food intake without protein in the daily menu, while judging from the local food available in the village of Ulak Rengas, one of which is tilapia fishery as animal protein is no longer something that is difficult to find. Children with inadequate protein intake (protein adequacy level < 80%) have a 20 times greater risk of experiencing a decrease in BB/TB Z score compared to pediatric patients who have adequate protein intake (protein adequacy level  $\geq$  80%) (Bandawati, et al., 2016). Insufficient protein intake can cause problems, such as nutritional status problems. Low protein intake in toddlers increases the risk of 1.8 times greater malnutrition than toddlers with adequate protein intake (Soumokil, 2017) in (Fadillah & Herdiani, 2020). Based on the results of the mother's knowledge level, most mothers already have good knowledge about nutrition and eating habits applied to children, indicated by a good level of protein adequacy in toddlers, 34 respondents (77.3%).

Relationship of Carbohydrate Adequacy Level with nutritional status

The results of statistical tests using the gamma test with the results of the  $\rho$  value <.001 <  $\alpha$  (0.05) which means that there is a relationship between the level of carbohydrate adequacy and the nutritional status of BW / TB for toddlers aged 12-59 months. Carbohydrates are the main source of energy in the body such as rice, cassava, corn, wheat, sago and others if excess will be stored in the body in the form of fat. Energy deficiency in toddlers can cause weight loss in a short time and result in nutritional problems (Afriansyah, et al., 2023).

This study is in line with the results of research (Khomsah, 2020) which explains that there is a significant relationship between the level of carbohydrate consumption and the nutritional status of toddlers. Sufficient carbohydrate consumption levels affect overall energy intake because based on the recommendation 60% of energy needs come from carbohydrates.

In this study there are still toddler respondents with insufficient carbohydrate adequacy, this is because toddlers have no appetite and prefer stall snacks, this is also related to the lack of routine mothers bringing toddlers to the posyandu, it can be seen from the liveliness of weighing from 44 toddlers only 11 toddlers from 44 toddlers

who actively come to the posyandu, so that the lack of maternal knowledge both from intake and growth of toddlers, by routinely coming to the Posyandu, child growth and development during the golden period (0-5 years) will be monitored properly.

Relationship between weighing activeness and nutritional status

The results of statistical tests using the gamma test with the results of the  $\rho$  value of 0.854 <  $\alpha$  (0.05) which means that there is no relationship between the activeness of the posyandu with the nutritional status of BW / TB of toddlers aged 12-59 months. In this study, respondents with inactive weighing activity were 33 respondents higher than respondents with less activity as many as 11 respondents. This study is in line with the results of Fitri's research (2018), it is known that there is no relationship between the activeness of maternal visits to the posyandu with the nutritional status of toddlers.

According to Heniarti (2015) in (Fitri, 2018) that the role of education is very important to receive information and gain knowledge, so that it can change the behavior of mothers who actively bring their toddlers to the posyandu. This is also likely due to the lack of maternal interest in coming to the posyandu, after complete immunization the mother has started to be absent from coming to the posyandu, mothers of toddlers come only at certain moments such as giving Vitamin A and additional food.

Based on the characteristics of the respondents, the majority of mothers' latest education is high school and junior high school where the lower the education, the less the visit to the Posyandu, and the higher the education, the better the visit to the Posyandu (Anka & Yeni, 2021).

Relationship between maternal knowledge level and nutritional status

The results of statistical tests using the gamma test with the results of the  $\rho$  value of 0.001 <  $\alpha$  (0.05) which means that there is a relationship between the level of maternal knowledge and the nutritional status of BW / TB of toddlers aged 12-59 months. In this study, mothers with a lack of knowledge were 16 respondents and mothers with a good level of knowledge were 28 respondents.

This study is in line with the results of Mirayanti's research (2023) that there is a relationship between maternal knowledge about nutrition and the nutritional status of toddlers. This is supported because the higher the mother's knowledge about nutrition can influence herself to stimulate the actions she knows and understands, such as feeding, how to cook food and serve food to her child (Maryatin, et al, 2020).

Based on the characteristics of respondents, it is known that mothers who have junior high school education are 7 high school 34 respondents and college as many as 3 respondents, the level of knowledge of mothers who are lacking with toddlers with malnutrition status is 7 respondents, this shows that a lack of knowledge can affect nutritional status in toddlers, this is reinforced by Notoatmojo (2012) maternal nutritional knowledge is very important in determining the composition of healthy food given to children.

## Conclusion

1. The characteristics of the respondents were the same number of male and female toddlers, most of the respondents were 1 year old and most of the respondents' mothers had a high school education.

- 2. BB / TB Nutritional Status of toddlers aged 12-59 months, namely toddlers with malnutrition as many as 8 respondents, good nutritional status as many as 35 respondents and at risk of overnutrition as many as 1 respondent.
- 3. Protein Adequacy Level of toddlers aged 12-59 months, namely the level of protein adequacy is less as many as 5 respondents, the level of protein adequacy is good as many as 34 respondents and the level of protein adequacy is more 5 respondents.
- 4. Carbohydrate Adequacy Level for toddlers aged 12-59 months, namely the level of carbohydrate adequacy is less than 10 respondents, the level of carbohydrate adequacy is good as many as 31 respondents and the level of carbohydrate adequacy is more than 3 respondents.
- 5. The activeness of weighing for toddlers aged 12-59 months is the activeness of inactive weighing as many as 33 respondents and the activeness of active weighing as many as 11 respondents.
- 6. The level of knowledge of mothers of toddlers aged 12-59 months, namely the level of knowledge is less than 16 respondents and the level of knowledge is good as many as 28 respondents.
- 7. There is a relationship between the level of protein adequacy and the nutritional status of BW / TB of toddlers aged 12-59 months in Ulak Rengas Village with the results of the  $\rho$  value of 0.001 <  $\alpha$  (0.05).
- 8. There is a relationship between the level of carbohydrate adequacy and the nutritional status of BW / TB of toddlers aged 12-59 months in Ulak Rengas Village with the results of the  $\rho$  value <.001 <  $\alpha$  (0.05).
- 9. There is no relationship between the activity of weighing with the nutritional status of BW / TB for children aged 12-59 months.in Ulak Rengas Village with the results of  $\rho$  value 0854 <  $\alpha$  (0.05).
- 10. There is a relationship between the level of maternal knowledge and the nutritional status of BW / TB of toddlers aged 12-59 months.in Ulak Rengas Village with the results of  $\rho$  value 0.001 <  $\alpha$  (0.05).

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