



Relationship between Nutritional Status and Toddler Psychomotor Development at the Marbau Health Center in North Labuhanbatu Regency in 2022

Mayasari

Program Studi Kebidanan, Universitas Haji Sumatera Utara Medan

Article Info

Corresponding Author:

Mayasari

E-mail:

mayasari@gmail.com

ABSTRACT

Psychomotor development in children under three years can be monitored by looking at gross and fine motor skills. One of the important factors that influence the psychomotor development of children under three years is the nutritional factor. This study aims to determine the relationship between nutritional status and toddler psychomotor development at the Marbau Health Center, Labuhanbatu Utara District in 2022. This research is a cross-sectional descriptive correlation approach. The research was conducted from 20 September 2022 to 30 September 2022. The population was 158 people. Sampling using accidental sampling with a total sample of 47 people. Data processing is done by editing, coding, tabulation, entry and data processing. The test that was carried out was the chi-square test. The results of the study showed that the majority of toddlers' nutritional status at the Marbau Health Center in North Labuhanbatu Regency were well nourished and the majority of toddlers' psychomotor development was appropriate. Based on the results of the chi-square test, the value of $p = 0.001 < \alpha = 0.05$ was obtained. So it can be concluded that there is a relationship between nutritional status and toddler psychomotor development at the Marbau Health Center in Labuhanbatu Utara Regency in 2022. The suggestion in this study is that the Marbau Health Center should continue to pay attention to the suitability of toddlers' nutritional status and psychomotor development in order to create a healthy and smart generation going forward.

Keywords: Nutritional Status, Psychomotor Development

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INTRODUCTION

One of the important factors that influence the psychomotor development of children under three years is the nutritional factor. Nutrition or nutrition is one of the important

Relationship between Nutritional Status and Toddler Psychomotor Development at the Marbau Health Center in North Labuhanbatu Regency in 2022- Mayasari

components in supporting the continuity of the process of psychomotor development. Malnutrition in children under three years will have an impact on children's psychomotor development (Indriati, 2016).

United Nations Children Fund (UNICEF) data in 2018, almost 3 in 10 children under the age of five were malnourished and 1 in 10 was underweight or too thin for their age. The distribution of toddler nutritional status in South Asia is the area that has the largest prevalence of malnutrition in the world, which is 46%, followed by sub-Saharan Africa 28%, Latin America/Caribbean 7%, and the lowest is in Central, Eastern and Commonwealth Europe. Independent States (CEE/CIS) of 5% (Unicef, 2019).

Malnutrition in children will have an impact on limited growth, susceptibility to infection, and can ultimately hinder children's development so that children need to obtain nutrition from daily food in the right amount and good quality (Indriati R et al, 2016). Other impacts that arise due to unbalanced nutrition cause problems that are very difficult for Indonesia to overcome, the problem of unbalanced nutrition is Lack of Protein Energy, Lack of Vitamin A, Disorders Due to Iodine Deficiency and Iron Nutrition Anemia (Mauliyah, 2016).

In general, there are 4 main problems of malnutrition in Indonesia, namely KEP (Protein Energy Deficiency), Iron Nutritional Anemia, Lack of Vitamin A and Disorders due to lack of iodine. One of the most fatal impacts of lack of 5 Protein Energy on toddlers is death. Because lack of calories and protein in toddlers is positively correlated with infant mortality (Mosley & Chen, 2016).

Toddler nutritional status determines the psychomotor development of children aged 12-36 months (Prasetya, 2016). Adequate nutritional intake will affect the individual's ability to move. If individuals with poor or poor nutritional status, they will experience physical growth barriers which directly affect the level of general movement abilities of these individuals (Humaira et al, 2018). Adequate nutritional intake will hinder the growth and development of children. Development is important in the case of children because development reflects the maturity of the nerves, such as the brain (Humaira et al, 2018).

Psychomotor development is the development of the human personality related to physical movement and muscle function due to encouragement from thoughts, feelings and will from within a person. Children's motor skills during their growth period will always be related to the learning process or in their daily life. Children should be given the freedom to move. With the freedom to move, children will have wealth, freedom and flexibility in mastering motion. It is not wise if children are limited to sports or certain things because it will limit children's motor skills (Alwi, 2016).

In line with the research by Humaira et al (2018) which states that there is a significant relationship between nutritional status and toddler psychomotor development. More attention is needed, especially from parents to maintain the nutritional needs of toddlers and for health workers to improve nutritional health services. Supported by research by Rosela et al (2017) states that there is a relationship between nutritional status and children's psychomotor development, namely children with good nutritional status and developmentally appropriate as many as 123 children (58.02%), the number of children with poor nutritional status has appropriate development.

Based on the initial survey at the Marbau Health Center, it was found that there were 134 toddlers in 2021, until June 2022 it was found that the number of children aged 12-36 months had increased to 158 children. Out of 158 children aged 12-36 months there were

4 children whose development was not in accordance with their age which was found in children aged 12 months who were unable to clap their hands properly and there were still 2 children who had not walked at 15 months and were found in children aged 2, 5 years old, there is a child who has a speech delay in the form of difficulty pronouncing words with consonant prefixes.

Based on the above, the author wants to examine whether there is a "Relationship between Nutritional Status and Psychomotor Development in Toddlers at the Marbau Health Center in North Labuhanbatu Regency in 2022". 3. The purpose of this study is to determine the relationship between nutritional status and psychomotor development of toddlers at the Marbau Health Center in North Labuhanbatu Regency in 2022

METHODS

This research is a descriptive correlation research that is namely research directed at explaining the relationship between the two independent variables and the dependent variable (Notoadmodjo, 2014). Where the independent variable (X) is nutritional status and the dependent variable (Y) is the toddler's psychomotor development

This research will be carried out in Marbau health center dWith the consideration that there is still child development not according to age, research with the same title has never been conducted, there is an adequate population and sample, and there are supporting references. The population in this study were all children aged 12-36 months in the Working Area of the Marbau Health Center until June 2022 as many as 158 toddlers based on data from the medical records of the Marbau Health Center. Sampling was carried out during posyandu activities in Marbau Village with a minimum target of 30% of the population so that the target sample size was 47 toddlers.

Operational Definition

Operational definition is an explanation of research variables to understand the meaning of each variable before analysis (Sujarweni, 2014).

Table 1 Operational Definition

No	Research variable	Definition	Measuring instrument	Results Measure	Scale
Independent Variable					
	Nutritional status	The condition of the balance of nutritional components in the body of children aged 12-36 months is assessed based on body weight and age	1. Scales 2. E-PPGBM	If BB/U: 1. Malnutrition = <-3.0 SD 2. Malnutrition = -3.0 SD to <-2.0 SD 3. Good Nutrition = -2.0 SD to 2.0 SD 4. Over nutrition = > 2.0 SD	Ordinal
Dependent Variable					
	Psychomotor Development	The ability to move the body of	Questionnaire with answer	Category: Age 12-18 months, 18-24	Ordinal

children aged 12-36 months related to motor movements in toddlers	choices 1. No 2. Yes	months and 24-36 months if: 1. Does not fit < 50% ability items 2. Fits \geq 50% ability items
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Data collection technique

Data collection was compiled and modified by researchers with reference to the conceptual framework and literature review (Nursalam, 2012). Data collection was carried out using primary data (questionnaire/questionnaire). Questionnaire/questionnaire is a way of collecting data or a research on a problem which generally concerns the public interest/many people (Notoatmodjo, 2010). This technique is carried out by circulating a list of statements/questionnaires submitted in writing to a number of respondents to obtain answer information.

Data processing

Data obtained through questionnaires is raw data. Data processing can be done with statistical techniques. According to A.Aziz Alimul Hidayat (2015) in the data processing there are steps that must be taken, including:

1. *Editing (Data Checking)*

Editing is an attempt to re-check the correctness of the data obtained or collected by checking the number of questionnaires and the completeness of the data.

2. *Coding (Coding of data)*

Is the activity of giving a code to the data from a variable - variables

3. *Tabulation (Data Grouping)*

Data are grouped according to research objectives and then entered in tables that have been prepared manually and with computer aids.

4. *Entry (Data Entry)*

Data Entry is the activity of entering data that has been collected into a master table or computer database.

5. *Data Processing (Data Process)*

All data that has been input into the computer application will be processed according to the needs of the research.

Bivariate Analysis

Bivariate analysis is used to see the relationship (correlation) between the independent variables and the dependent variable (Notoadmodjo, 2014). Bivariate analysis was carried out to test whether there was Relationship between Nutritional Status and Toddler Psychomotor Development at the Marbau Health Center in North Labuhanbatu Regency in 2022 by using the chi-square test statistic then the results are narrated. The reason for choosing this test is because the chi-square test is useful for testing the relationship or influence of two nominal variables and measuring the strength of the relationship between one variable and another nominal variable.

RESULTS AND DISCUSSION

1. Characteristics of Respondents

The characteristics of the respondents examined in this study include: Age, the sex and weight of toddlers can be seen in table 4.1:

Table 1. Characteristics of Toddlers in Marbau Health Center in North Labuhanbatu Regency in 2022

No	Characteristics	Frequency (f)	Percentage (%)
1	Toddler Age		
	12-18 Months	23	48,9
	19-24 Months	18	38,3
	25-36 Months	6	12,8
	Amount	47	100.0
2	Gender of Toddlers		
	Man	22	46,8
	Woman	25	53,2
	Amount	47	100.0
3	Toddler Weight		
	≤8.8 Kg	19	40,4
	8.9-14.3 Kg	26	55,3
	≥21 Kgs	2	4,3
	Amount	47	100.0

Based on table 1, it can be seen from 34 toddlers At the Marbau Health Center, it can be seen that the majority of toddlers are 12-18 months old with 23 toddlers (48.9%), the majority of toddlers are female, 25 toddlers (53.2%) and the majority toddler's weight is 8.9- 14.3 Kg as many as 26 toddlers (55.3%).

2. Psychomotor Development of Toddlers at the Marbau Health Center in North Labuhanbatu Regency in 2022

To see the Psychomotor Development of Toddlers at the Marbau Health Center, North Labuhanbatu Regency in 2022 can be described in table 4.3:

Table 2. Psychomotor Development of Toddlers at the Marbau Health Center, North Labuhanbatu Regency in 2022

No	Psychomotor Development	Frequency (f)	%
1	It is not in accordance with	7	14,9
2	In accordance	40	85,1
	Amount	47	100

From table 2 it can be seen that of the 47 toddlers, the majority of the data on the Psychomotor Development of Toddlers at the Marbau Health Center in North Labuhanbatu Regency matched as many as 40 toddlers (85.1%).

3. The Relationship between Nutritional Status and Psychomotor Development for Toddlers at the Marbau Health Center in North Labuhanbatu Regency in 2022

To see the relationship between nutritional status and toddler psychomotor development at the Marbau Health Center in North Labuhanbatu Regency in 2022, it can be seen in Table 4.4:

Table 3. Relationship between Nutritional Status and Toddler Psychomotor Development at the Marbau Health Center in North Labuhanbatu Regency in 2022

No	Toddler Nutritional Status	Psychomotor Development		Total	Mark P
		It is not in accordance	In accordance		

		with						
		N	%	N	%	N	%	
1	Malnutrition	2	100.0	0	0	2	100	0.001
2	Malnutrition	5	100.0	0	0	5	100	
3	Good Nutrition	0	0	38	100.0	38	100	
4	More Nutrition	0	0	2	100.0	2	100	
Total		7	14,9	40	85,1	47	100	

Based on Table3 above, it can be seen that the nutritional status of the majority of toddlers is good nutrition with psychomotor development according to the category of 38 toddlers (100%) at the Marbau Health Center in 2022. Then based on the results of the chi square test, the value of $p = 0.001 < \alpha = 0.05$ then H_0 rejected means that there is a relationship between nutritional status and psychomotor development in toddlers at the Marbau Health Center in North Labuhanbatu Regency in 2022.

Discussion

1. Toddler Nutritional Status at the Marbau Health Center, North Labuhanbatu Regency in 2022

Based on the results of the study it was found thatThe majority of toddlers' nutritional status at the Marbau Health Center in North Labuhanbatu Regency are good nutrition at 80.9%. This can be related to age and body weight where the majority of toddlers are 12-18 months old with the majority body weight being 8.9-14.3 kg. This is in accordance with the 2017 nutritional status monitoring pocket book which states that the ideal body weight for toddlers aged 12-18 months is 8.9 kg - 11.5 kg for girls and 9.6 kg - 14.3 kg for boys. -man. Meanwhile, in the study, the weight was obtained due to a mixture of sex and women, so the category was 8.9-14.3 kg.

2. Psychomotor Development of Toddlers at the Marbau Health Center in North Labuhanbatu Regency in 2022

Based on the results of the study, it was found that the majority of toddlers' psychomotor development at the Marbau Health Center in North Labuhanbatu Regency was 85.1%. This happens because there is still a nutritional status of toddlers in this study in cases of malnutrition, undernutrition and overnutrition. Based on the results of the questionnaire answers to toddlers who did not match their psychomotor development, it was found that children in the 12-18 month age category were unable to stack 2 cubes and put the cubes in a box based on the stage of psychomotor development that was appropriate at the age of 12-18 months. Whereas in the 19-24 month age group the psychomotor development was not appropriate, it was assessed that toddlers could not walk up the stairs on their own and were unable to name objects or pictures shown based on the appropriate stage of psychomotor development at the age of 19-24 months.

3. The Relationship between Nutritional Status and Psychomotor Development for Toddlers at the Marbau Health Center in North Labuhanbatu Regency in 2022

Based on the results of the study it was found thatthe nutritional status of the majority of toddlers is good nutrition with psychomotor development according to the category of 38 toddlers (100%) at the Marbau Health Center in 2022. Then based on the results of the chi square test obtained p value = $0.001 < \alpha = 0.05$ then H_0 is rejected,

meaning there is Relationship between Nutritional Status and Toddler Psychomotor Development at the Marbau Health Center in North Labuhanbatu Regency in 2022.

Furthermore, in the study it was found that there was 1 child with overweight nutritional status and inappropriate psychomotor development where the 13 month old child was unable to stand alone even though he was holding on, unable to bend and pick up toys, unable to walk backwards and unable to stack and put cubes boxed. This indicates that the child's psychomotor development is not in accordance with the stages of development according to his age. According to Rusilanti et al (2015) states that children who are overweight or obese cause children to have difficulty moving and are less active, but this does not occur in all children. Based on direct interviews with their parents (mothers), it was found that so far their children were cared for by other people because they were busy working so they rarely interacted with their mothers.

CONCLUSION

Based on research conducted at the Marbau Health Center, North Labuhanbatu Regency, in 2022 the conclusions were obtained: The majority of toddlers' nutritional status at the Marbau Health Center in Labuhanbatu Utara Regency are good nutrition. The majority of toddlers' psychomotor development at the Marbau Health Center in North Labuhanbatu Regency are in accordance. There is a relationship between nutritional status and toddler psychomotor development at the Marbau Health Center in North Labuhanbatu Regency in 2022 with a p value = 0.001 $\alpha < 0.05$.

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