

Relationship between nutritional status and development of children aged 2-5 years in Iraonogaila village, Lahomi . district

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ABSTRACT

The most important phase in a child's growth and development is during the toddler years because that is the most vital time for parents to build the foundation for their baby's growth and development. Research purposes. This study aims to determine the relationship between nutritional status and the development of children aged 2-5 years in the village of Iraonogaila, Lahomi District. Research design. This research is an observational analytic using a cross sectional approach. Population. All families with toddlers aged 2-5 years in the village of Iraonogaila, Lahomi District. Sample. A total of 64 people using the Total population technique. Instrument. By using the Dacin and developmental pre-screening questionnaire. Data analysis. It was carried out in two stages, namely: univariate analysis and bivariate analysis. Research result. The results showed that the nutritional status was good with appropriate development as many as 39 people (60.9%), with doubtful development as many as 15 people (23.4%) and with deviant development as many as 3 people (4.7%). More nutritional status with appropriate development as many as 2 people (3.1%). Undernutrition status with dubious development was 1 person (1.6%) and with deviant development as many as 4 people (6.2%). Conclusion. There is a significant relationship between nutritional status and the development of children aged 2-5 years, namely $\alpha = (0.000 < 0.05)$. Recommendation. It is recommended for parents to provide developmental stimulation to children and pay attention to good nutritional intake in children so that children do not experience developmental delays or deviations.

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1. Introduction

The most important phase in a child's growth and development is during infancy and toddlerhood, because that is the most vital time for parents to build the foundation for their baby's growth and development. The process of growth and development in infancy and toddlerhood is a very important process in determining the future of children physically, mentally and behaviorally (Sunartyo, 2014).

Every child will go through the process of growth and development according to the stages of their age. Growth is an increase in the size and number of cells and intracellular tissues, so that there is an increase in physical size and body structure. Development is an increase in more complex body functions so that children have gross motor skills, fine motor skills, language speaking, as well as socialization, and independence (Ministry of Health, 2012).

The period of growth and development of toddlers is divided into several periods in accordance with the Regulation of the Minister of Health of the Republic of Indonesia No. 66 of 2014. Babies are children from 0-11 months old. Toddlers from the age of 12-59 months and preschoolers from the age of 60-72 months. The progress of children's development until the age of

3 years (36 months) and the provision of stimulation to children who were divided into several groups according to the age of children under five became one of the basis for selecting and focusing research. The age of children 24-60 months is a time of crisis for children under five who continue to form brain tissue. (Ministry of Health, 2014).

Children who succeed in taking action according to their age stages, then the child can be categorized as a child who successfully adjusts normally. Guidelines for the implementation of stimulation, detection, and early intervention on child growth and development are very important to know and understand because through early detection of toddler growth and development, abnormal growth and development deviations can be detected early. Growth and development should continue to be monitored by the closest person to the toddler. Monitoring of children is very necessary starting from 0 months to 72 months even until pre-school age (Zulaikhah, 2010).

The World Health Organization (WHO) in 2012 reported that 5-25% of preschool-aged children suffer from minor brain dysfunction, including impaired fine motor development. The Indonesian Ministry of Health reported that 0.4 million (16%) Indonesian children under five had developmental disorders, both gross and fine motor development, hearing loss, low intelligence and speech delay (Ministry of Health 2014).

The Ministry of Health of the Republic of Indonesia in 2016 has made a measuring tool to monitor the development of these toddlers, namely the Developmental Pre-Screening Questionnaire (KPSP). The period of child development is divided into several stages. At this time growth begins to decline, there is progress in motor development (gross and fine movements), and expression functions. After birth, especially in the first three years of life, the growth and development of brain cells is still ongoing. This period also continues to experience the growth of nerve fibers and their branches. The growth of neural networks and children's brains is increasingly complex which will affect the developmental abilities of children (Ministry of Health, 2016).

The growth and development of children under five in each region is the concern of the ministry of health. (Directorate of Public Nutrition, Directorate General of Public Health, 2017) through the National Nutrition Monitoring recorded 3.4% of children under five in Indonesia were malnourished and 14.4% under five were undernourished. Monitoring the growth and development of toddlers can be done at the posyandu. Monitoring the growth of toddlers is carried out every month. Developmental monitoring is carried out every 3 months for toddlers under 12 months and every 6 months for toddlers aged 12-72 months (Sulistyawati, 2013).

Nutritional status is the third indicator in determining the health status of children. Good nutritional status can help the process of growth and development of children to reach optimal maturity. Adequate nutrition can also improve the body's resistance so that the body is expected to be free from all diseases. This nutritional status can help to detect early the risk of health problems. Nutritional status monitoring can be used as a form of anticipation in planning for improving children's health status (Hidayat, 2011). The nutritionally vulnerable group is the group of people who are most susceptible to nutritional disorders if a community experiences a shortage of food supplies (Sediaoetama, 2012).

From the initial survey of research conducted in Iraonogaila Village, the number of children under five in Iraonogaila Village was 93 people and 64 people aged 2-5 years old. Iraonogaila Village has three hamlets and 3 Posyandu for toddlers, this Posyandu for toddlers is carried out every month. Given the importance of monitoring growth and development and nutrition in toddlers, researchers are interested in researching "The Relationship between Nutritional Status and Development of Children aged 2-5 Years in Iraonogaila Village, Lahomi District"

2. Method

The type of research conducted is the Analytical Observational research method using a Cross Sectional approach. This research was conducted in Iraonogaila Village, Lahomi District, from May to June 2020. The subjects of this study were all children aged 2-5 years in Iraonogaila Village, Lahomi District who met the inclusion criteria and were willing to become research subjects after being given an explanation and signing the informed consent form. consent). The sampling technique in this study used a total population with a total sample of 64 people. The instrument

used to collect data was a developmental pre-screening questionnaire and a dacin for weighing toddlers

3. Results and Discussion

3.1 Univariate Analysis

Frequency Distribution Table by Gender:

Table 1
Frequency Distribution of Respondents by Gender of Toddlers in the Village Iraonogaila Lahomi . District

No.	Gender	Frequency (f)	Percentage (%)
1.	Man	29	45.3
2.	Woman	35	54.7
	Total	64	100

Table 5.1 shows that of the 64 respondents, the majority of children under five with female sex were 35 people (54.7%) and a minority of children under five with male sex were 29 people (45.3%).

Table 2.
Frequency Distribution of Respondents by Age of Toddler in the Village Iraonogaila Lahomi . District

No.	Age(Month)	Frequency (f)	Percentage (%)
1.	24 Months	9	14.1
2.	30 Months	10	15.6
3.	36 Months	9	14.1
4.	42 Months	10	15.6
5.	48 Months	8	12.5
6.	54 Months	9	14.1
7.	60 Months	9	14.1
	Total	64	100

From table 5.2, the results showed that from 64 respondents under the age of 24 months as many as 9 people (14.1%), toddlers aged 30 months as many as 10 people (15.6%), toddlers with the age of 36 months as many as 9 people (14,1 %), toddlers aged 42 months were 10 people (15.6%), toddlers aged 48 months were 8 people (12.5%), toddlers aged 54 months were 9 people (14.1%) and toddlers with age 60 months as many as 9 people (14,1%).

Table 3.
Frequency Distribution of Respondents Based on Nutritional Status in Iraonogaila Village Lahomi District, Kab. Langkat Year 2020 (n=42)

No.	Nutritional status	Frequency (f)	Percentage (%)
1.	More	2	3.1
2.	Well	57	89.1
3.	Not enough	5	7.8
4.	Bad	0	0.0
	Total	64	100

From table 5.3 the results show that from 64 respondents the majority of toddlers with good nutritional status were 57 people (89.1%), 5 people with less nutritional status (7.8%) while the minority of toddlers with more nutritional status were 2 people (3.1%) and children under five with poor nutritional status did not exist.

Table 4.
Frequency Distribution of Respondents Based on Developments in the Village
Iraonogaila Lahomi . District

No.	Development	Frequency (f)	Percentage (%)
1.	In accordance	41	64.1
2.	Doubtful	16	25.0
3.	Deviate	7	10.9
Total		64	100

From table 5.4, the results show that of the 64 respondents, the majority of toddlers with appropriate development are 41 people (64.1%), while the minority of toddlers with deviant development are 7 people (10.9%).

3.2 Bivariate Analysis

Table 5.
The Relationship between Nutritional Status and Development of Children aged 2-5 Years in the Village
Iraonogaila Lahomi . District

No	Toddler Nutritional Status	Toddler Development						Total	P Value	
		In accordance		Doubtful		Deviate				
		f	%	F	%	F	%			
1.	More	2	3.1	0	0.0	0	0.0	2	3.1	0.000
2.	Well	39	60.9	15	23.4	3	4.7	57	89.1	
3.	Not enough	0	0.0	1	1.6	4	6.2	5	7.8	
4.	Bad	0	0.0	0	0.0	0	0.0	0	0.0	
Total		41	64.1	16	25.0	7	10.9	64	100	

From table 5.5, the results show that from 64 respondents with good nutritional status with appropriate development as many as 39 people (60.9%), with doubtful development as many as 15 people (23.4%) and with deviant development as many as 3 people (4.7%). More nutritional status with appropriate development as many as 2 people (3.1%). Undernutrition status with dubious development was 1 person (1.6%) and with deviant development as many as 4 people (6.2%).

3.3 Discussion

a. Nutritional status of children aged 2-5 years

From the data on the nutritional status of toddlers in table 5.3 it shows that 57 respondents (89.1%) have good nutrition, this is because the nutritional intake needed by toddlers is in accordance with the needs of their body activities accompanied by normal weight so that these toddlers have adequate nutrition. good. Toddlers with more nutritional status as many as 2 people (3,1%, this is due to excess nutritional intake consumed by children, so that when weighing the child's weight the child has a weight above normal or more. However, there are still 5 children under five (7.8%) nutritional status, this happens because of the lack of nutritional intake consumed by children coupled with the lack of parenting patterns that rarely give their children nutritious food such as foods that contain protein and carbohydrates. vitamins so that children have a body weight below normal.

Then from the data on the sex of the respondents in table 5.1, it shows that half of the respondents are girls under five and more than boys. So the nutritional adequacy rate between men and women is different, the difference lies in the activities of children every day, boys play more often, which is more energy-consuming than girls. Differences in the metabolism of boys and girls are also related to the children's daily activities.

Factors that affect nutrition in toddlers include direct, namely food consumption and indirectly, namely parenting, psychology, genetics and health services. Nutrients that can build the body to stay healthy have specific functions and are interrelated with one another. Nutrients that function to provide energy to the body include carbohydrates, fats, and proteins. Nutrients that function for metabolic processes include minerals, vitamins, and proteins. (Yusuf, Yulastri, Kasnita, Kadiah, 2008)

Different age and weight levels of children always have different activities following the development of their age so that the nutrition of children at each age is not the same for children aged 24-36 months with an average weight of 12 Kg requiring energy as much as 120 kcal, protein 23g, Vit -A 350 RE. Ages 48-60 months with an average body weight of 18 Kg require 1750 kcal of energy, 32 g of protein, Vit-A 46Z RE. The nutrients in food differ from one another, the difference lies in the type of nutrient and the amount of nutrients in each food. (Yusuf, Yulismi, Kasnita, Kadiyah, 2008).

According to the researcher's assumption, the nutritional status of children under five in the village of Iraonogaila, Lahomi District, shows that almost all respondents have good nutritional status. However, among them there are still toddlers who have poor nutritional status. This is because the majority of parents work in the fields and rarely participate in posyandu activities so that children's weight is not monitored accompanied by low-income parents who rarely provide appropriate nutritional intake for their children, for example, in terms of side dishes every day so that their children rarely consume nutritious and balanced diet.

b. Development of Toddlers Age 2-5 Years

Data on the development of toddlers aged 2-5 years in Table 5.4 shows that the majority of respondents have appropriate development as many as 41 people (64.1%), this is because toddler nutrition is fulfilled with parenting patterns that always pay attention to the development of their children so that children can take appropriate actions. developmental pre-screening questionnaire. Toddlers with dubious development were 16 people (25.0%), this was because toddlers were only able to perform gross motor and fine motor actions, while speaking and independence of toddlers were still lacking so that the toddler's development was doubtful. While respondents with deviant development are 7 people (10.9%), this is because toddlers have limitations in performing fine motor actions such as toddlers cannot arrange blocks,

Child development has principles including unlimited development which means that the child's physical will experience progressive, regular and continuous growth. Development can be assessed from general to specific responses. The development of the physical aspect includes mental, emotional and social children who have a chain of stages of development, development has a pattern, development occurs due to maturity and learning factors as well as internal and external factors. (Singgih, 2008).

Factors that influence development are internal factors, race is a child born with race in a country, the child does not have a race like other countries, age is a benchmark for accelerating the growth and development of children, gender is a development in girls faster than children For men, the family will influence the child's body shape according to his parents, genetics is a child's innate factor with potential. Genetic disorders in children will affect the next child's development (Ministry of Health, 2018).

Development will also experience progressive changes, impacting the maturity process and individual experience. Every individual in the course of his life will go through two processes, the first is growth, growth here leads to infancy, the second is setbacks, setbacks will occur when the individual has reached the age of late adulthood (Soetjiningsih, 2012).

According to the researcher's assumption, the majority of children under five in the village of Iraonogaila, Lahomi District, have the appropriate development. However, there are still toddlers with dubious and deviant development. This happens because parents rarely participate in posyandu activities and lack early stimulation for children. So that the development of children is not in accordance with their age or children experience delays in developing.

c. Relationship between Nutritional status and Development of Children aged 2-5 years

From table 5.5, the results show that the majority of the nutritional status of children under five with appropriate development, namely good nutrition as many as 39 people (60.9%) and over nutrition as many as 2 people (3.1%), this is because the nutritional intake needed by toddlers is fulfilled so that the development of children according to their age. While the minority of under-five nutritional status with deviant development is 4 people (6.2%), this is due to the toddler's need for nutritional intake is still lacking and the lack of ability of toddlers to perform fine motor actions, speech and independence, so that toddlers experience developmental deviations and not appropriate for his age. This is evidenced by the results of statistical tests using the chi-square test at a significant level of 0.05 (95% confidence level) obtained = 0.000 is smaller than = 0.05 (0.000 <

0.05) meaning H_0 is rejected H_a is accepted . This shows that there is a statistically significant relationship between nutritional status and the development of children aged 2-5 years in Iraonogaila village, Lahomi district.

Children's growth and development greatly determines quality resources, development in children is influenced by the environment and parents. Parents are the closest people to children, they must understand the growth and development of children, not only that, to achieve quality development, it must be supported by good nutrition, because in nutrition there is continuity between nutritional intake and the amount of nutrition needed by the child's body. various functions of the child's body. (Husnah, 2015).

4. Conclusion

Based on the results of the research above, the researcher's assumption is that there is a relationship between nutritional status and the development of children aged 2 to 5 years in Iraonogaila Village, Lahomi District. The better the nutritional status of toddlers will support the development of toddlers according to their age accompanied by parenting patterns that continue to stimulate early development in their children and at any time monitor the development of children so that there are no developmental delays or deviations in children. There is a significant relationship between nutritional status and the development of children aged 2-5 years with a probability value less than ($\rho <$) which is $0.000 < 0.05$.

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