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RELATIONSHIP BETWEEN NUTRITION STATUS, GROWTH AND DEVELOPMENT FOR CHILDREN AGED 1-5 YEARS AT RAILACO HEALTH CENTER, ERMERA MUNICIPALITY, TIMOR-LESTE 2023

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Abstract

1-5 year children as an investiment for a nation, because they are the new generations for a nation. The quality of the nation in the hands of infants because the infants as a human resource that harm now implements with the systematic and continues to increase growth and development for infants in pre-school ages to be optimal through the state of nutrition with quality and certain (Judanwanto, 2019). This research wanted to identify a relationship between the nutrition state and the development growth for children in the preschool period in Health Center Railaco, Ermera municipality, Timor-Leste. To identify a relationship between nutritional state and growth and development for children in the pre-school period in Health Center Railaco, Ermera municipality, Timor-Leste. in this research they use the quantitative method in the approach with cross sectional approach in the techical use of non probability sampling with the type of accidental sampling. the result of research for 65,8% of children with moderate nutritional status and 34,2% good. And there is 59,1% moderate growth and 40,9% are good. And there is 63,8% moderate development and 36,2% are good. The result of the statistic using the Chi Square test between the nutritional status and the growth and development, it identifies p value= 0,000 0r p=< 0,05

Kyeword: *Nutrition status, growth and development of children*

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INTRODUCTION

The period of childhood is a very important and requires maximum attention. This i s a period of rapid growth and development, including physical growth, psychomotor, ment al and social development. One factor that greatly affects the growth and development of ch ildren is nutrition. Malnutrition in children will have an impact on limiting growth, vulnera

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bility to infections, and the need for children to receive daily nutrition with adequate and good quality food (Indriati, 2016 & Meilani, 2018).

Children in the pre-school age group are an investment for the nation, as they are the future generation of the countryThe quality of the nation's future is in the hands of children, as they are a resource for the country. It is necessary to systematically and continuously improve the growth and development of children from the preschool age group onward, in order to maximize human resource sources and optimize the nutritional status and good quality (Judarwanto, 2019).

Nutrition is an organic substance that is very important for our body, as well as a nutritional organism to avoid illness. It is an organized process by the body to maintain metabolic activity of the body through the usual consumption of food. Good nutrition can help the digestive process, the absorption of food reserves or fertility, and also maintain metabolic integrity. In addition to this, nutrition is also like food that strengthens our body's energy (Supariasa, 2016).

Nutrition is an important component to support the growth and development of children (Hidayat A, 2013). One factor that affects children's development is their nutrition status (Rusilianti, 2015).

According to the World Health Organization (WHO) in 2020, globally there were 149.2 million 5-year old children, of whom 103.8 million had good nutrition. Among these children, 97.3 million had good growth and development.

Out of the total number of children in the world, 45.4 million suffered from malnutrition, and 38.9 million exhibited poor growth and development. Based on research conducted by Yogy Ahmad Fauzi at the Dempok Utara Posyandu in the Diwek Jombang subdistrict of Indonesia in 2018, the majority of children had good nutrition status, consisting of 72 or 75.8% of them, and good growth and development, consisting of 61 or 64.2% of them. There were 17 or 17.9% of children who suffered from malnutrition, and 15 or 15.8% who exhibited poor growth and development. Results from statistical tests with a significant value of 0.000, which is less than the significance standard of 0.05, indicated that there is a relationship between nutrition status and growth and development of children aged 15 in the Dempok Posyandu sub-district in Diwek Jombang.

According to the 2016 National Health Demographic Survey (TLDHS), it is reported that 56% of 5-year old Timorese children are normal in terms of nutrition, with a total of 65,888children, while 99% have normal nutrition and 8% are malnourished, which is a total of 15,624 and 1,346 children, respectively. The survey was conducted in the Ermera municipality and revealed that out of a total of 933 children aged 5 in this area, 93% have good nutrition, with 864 children being wellnourished and 7% having poor nutrition, with 69 children being malnourished. This study is based on the interest of fishermen who want to research the relationship between nutritional status, growth, and development of children between the ages of 15 at the Railaco Health Center in the Ermera municipality.

According to the Timor-Leste Demographic Health Survey (TLDHS) in 2016, it is reported that out of a total of 933 children aged 5 years old and under in the municipality of

Ermera, 864 (93%) had good nutrition while 69 (7%) had poor nutrition. This research aims to understand the relationship between nutrition status and growth and development for chi ldren aged 1-5 years old in Health Center Railaco, Ermera municipality, Timor-Leste.

METHOD OF RESEARCH

The quantitative analytical research method was used to understand and analyze the dynamic correlation between phenomena or between one phenomenon and another. This st udy was conducted using the Cross Sectional method to analyze one variable against anothr variable over a certain period of time.

RESEARCH RESULTS UNIVARIATE ANALYSIS

Table 1 presents the frequency distribution of children by age.

Age	Frequency	Persentajen(%)
1	45	30,2
2	39	26,2
3	25	16,8
4	22	14,8
5	18	12,1
Total	149	100,0

Sources: UNTL student researchers

Based this table which indicates that the majority of children (30.2%) aged 1 out of a total of 45 are shown in the above table, and the minority of children aged 5 out of a total of 18 children are shown with a proportion of 12.1%.

Table 2 shows the frequency distribution of children by gender.

Gender	Frequency	Persentajem (%)
Male	87	58,4
Female	62	41,6
Total	149	100,0

Sources: UNTL student researcher

Based on the table above indicating that the majority of children are female with a t otal of 87 and proportion (58.4%), while the minority are male children with a total of 62 a nd proportion (41.6%).

Table 3. Frequency distribution of heavy children according to age.

Weigth	Frequency	Persentajen

Normal	66	44,3
Abnormal	83	55,7
Total	149	100,0

Sources: UNTL student researcher

Based on the table mentioned above, it shows that the majority of heavy children by age group are not normal with a total of 83 (proportion of 55.7%) and the normal total is 6 6 (proportion of 44.3%).

Table 4 Nutrition Status Distribution for Children aged 1-5.

Nutrition Status	Frequency	Persentajem (%)
Good	51	34,2
Poor	98	65,8
Total	149	100,0

Sources: UNTL student researcher

Based on the table mentioned above, it shows that the majority of children are in a s tate of poor nutrition with a total of 98 and a proportion of 65.8%, and the minority are chil dren with good nutrition with a total of 51 and a proportion of 34.2%.

Table 5. Distribution of growth for children aged 1-5.

Growth	Frequency	Persentajen (%)
Good	61	40,9
Poor	88	59,1
Total	149	100,0

Data: Researcher student from UNTL

Based on the table mentioned above, it shows that the majority of children with poo r growth is 88 with a proportion of (59.1%), and the minority is 61 children with a good gro wth rate with a proportion of (40.9%).

Table 6. Distribution of Development for Children aged 1-5.

Development	Frequency	Persentajen (%)
Diak	54	36,2
La di’ak	95	63,8
Total	149	100,0

Bivariate Analysis

Table 1. Relationship between nutrition status and growth for children aged 1-5 years

Nutrition Status	Growth				Total		P_Value
	Good		Poor				
	F	%	F	%	F	%	
Normal	44	29,5	7	4,7	51	34,2	
Low	17	11,4	81	54,4	98	65,8	0.000
Total	52	40,9	88	59,1	149	100	

Source: UNTL student researcher

Based on the above table, it shows that the majority of children who have poor nutri tion status and low growth proportion (54.4%) compared to children who have good nutriti on status and poor growth proportion (11.4%). Children who have normal nutrition status a nd good growth proportion (29.5%) and children who have normal nutrition status and poor growth proportion (4.7%). Based on the result of the chisquare test, it indicates that there is a relationship between nutrition status and child growth (P_Value: 0.000).

Table 2. Relationship between nutrition status and development for children aged 1-5 years

Nutrition Status	Growth				Total		P_Value
	Good		Poor				
	F	%	F	%	F	%	
Normal	41	27,5	10	6,7	51	34,2	
Poor	13	8,7	85	57,0	98	65,8	0.000
Total	54	36,2	95	63,8	149	100	

Based on the table mentioned above, it shows that the majority of children with poo r nutrition and development (57.0%) compared to those with good nutrition and developme nt (8.7%). Children with normal nutrition and good development have a proportion of 27.5 %, while those with normal nutrition but poor development have a proportion of 6.7%. Bas ed on the chi-square test results, there is a relationship between the nutrition status and chil d development (P-value: 0.000).

Univariate Discussion

Distribution regarding the nutrition status of children aged 1-5 in Railaco Health Center

Based on Table 4 above shows that the majority of respondents have poor nutrition (65.8%). Based on the researcher's observation, the nutrition status of children affects th eir development and growth, such as weight not following age, height not following age, an d low cognitive function not in line with age. According to Supariasa (2015), nutrition statu s is very important and every parent needs to understand the needs of their children to pay more attention to their growth and development, especially for children under the age of fiv e. Poor nutrition during this period may have irreversible effects on growth and developme nt, and can adversely affect a child's brain development. Suhardjo (2010) mentioned that th e nutrition status is a condition that determines a child's health, which is obtained from food intake and can be identified through anthropometric measurements.

Distribution regarding the growth of children aged 1-5 at Railaco Health Center

Based on Table 5 above, which shows that the majority of respondents have poor gr owth (59.1%). According to the researcher's observation, the poor growth of children affect s their nutrition status and development. According to Harjatmo (2017), growth is an increa se in the size and quantity of cells, particularly in the body's upper, quantitative, and measur able parts such as height, weight, and head circumference.

According to Tanuwijaya (2012), growth has special characteristics, such as change s in size, changes in proportion, replacing old characteristics, and creating new characteristi cs. The frequency of growth and its speed is not the same in each age group and each organ has a different growth model.

Distribution regarding the development of children aged 1-5 at the Railaco Health Center

Based on table 6, which shows that the majority of children have poor development (63.8%). According to the researcher's observation, the poor development of children als o affects their activities. According to Soetginingsih (2012), the development of children is a complete change that occurs in children, including various aspects such as motor, emotion al, cognitive, and psychosocial aspects that can interact with the environment. According to Rikawati (2015), development is also a change in the structural and functional capacity of t

he body, including complex forms and regularity formation in the results of the maturity pr ocess. This can achieve the function of body organs, including emotional and intellectual de velopment and adaptation to the environment.

Bivariate Discussion

The relationship between nutritional status and the growth of children aged 1-5

Based on the table mentioned above, the majority of children who have a poor nutrit ional status with poor growth are in proportion (54.4%) compared to children with poor nut ritional status who have good growth in proportion (11.4%). Children with normal nutrition al status and good growth are in proportion (29.5%) while children with normal nutritional status and poor growth are in proportion (4.7%).

According to research by Notoadmodjo (2015), a small P_Value compared to an alp ha value of 0.05 means that there is a significant relationship between the independent and dependent variables. Thus, the research results show a significant relationship between nutr ition status and child growth. This is based on the theory according to Wyiono (2017) that n utrition status is a condition that is balanced by nutrient intake and the body's metabolic nee ds. Children with good nutrition status also have less risk for inadequate growth compared t o their peers of the same age but with poor nutrition status.

The relationship between nutrition status and child development during the ages of 1-5

The reflected in the table mentioned above. The majority of children (57.0%) with p oor nutrition status have poor development compared to only 11.4% of children with good nutrition status. Meanwhile, 29.5% of children with good nutrition status have good develo pment and 4.7% of children with poor nutrition status have good development.

According to Notoadmodjo (2015), a small P_Value compared to an alpha value of 0.05 means that there is a significant relationship between the independent and dependent v ariables. Thus, the research results show a significant relationship between nutrition status a nd child development.

This is also based on the theory according to Veratamala (2015) that a child's nutriti on status during the period of growth is a manifestation of genetic and environmental factor s that influence growth and development during the early stages of life. Poor nutrition statu s also affects child development, but only a small percentage of children are able to attain g ood development despite having poor nutrition status.

CONCLUSION

Based on the research results on "Relationship between Nutritional Status, Growth, and Development for Children Aged 15 Years in Railaco Health Center, Ermera Municipali ty in 2023", the researcher draws the following conclusion:

Based on the scientific research results: The results of this research analysis show th at out of a total of 149 respondents, 65.8% of children aged 15 years had poor nutritional st atus while the minority, representing 34.2%, had good nutritional status.

Based on Table 4.2.4. Moreover, based on the data analysis in Table 4.2.5, it shows that among 149 respondents, 59.1% had poor growth and 40.9% had good growth. Meanw hile, based on the data analysis in Table 4.2.6, among 149 respondents, 63.8% had poor dev elopment and 36.2% had good development.

The bivariate analysis results using Chi-square test show a correlation value of 95% ($\alpha = 0.05$) between the level of nutritional status and growth and development of children a ged 15 years in Railaco Health Center, with a pvalue of 0.000 or $p < 0.05$, which signifies a significant relation between nutritional status, growth, and development among children in Railaco Health Center.

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