Correlation Between The Nutrient Status And The Toddler Growth Of 3 And 4 Years Old In Rau Primary Health Center, Serang City In 2019

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ABSTRACT

Background*: In the prevalence of Under-nutrition (Underweigth) the improvement occurred successively from 2013 amounted to 19.6%, up to 17.7% 2018. Despite the decline, the decline recorded was judged to be still insignificant. The World Health Organization (WHO) sets a prevalence limit of 20 percent for malnutrition. In fact, 'closing down' cases of malnutrition has been recorded as one of the targets of the Sustainable Development Goals (SDGs) second point 'zero hunger' in 2030. Indonesia along with other United Nations countries are committed to ending all forms of malnutrition, including reaching the world target by 2025. In the age of 3 and 4 years old, the optimal of nutrition status and children growth is the result of growth and development which has passed the critical period well and vice versa. Since the first thousand days of life, Children with the fulfilled or unfulfilled of provided nutrition can be assessed for their possible impacts on their development in 3 and 4 years old.*

Methodology*: This type of research is quantitative research, with a non-experimental design using the study approach of cross sectional. The samples of this research were the majority of toddlers of 3 and 4 years old who were selected 64 toddlers be the samples. The inclusion criteria are toddlers aged 3 and 4 years in the Rau Puskesmas and at the time of data distribution. Then, Analysis data used the logistic regression test.*

Results*: Through Univariate analysis found that the majority of respondents had poor nutritional status (57.8%), had low education (67.2%), with low income (56.3%) and lack of food consumption (54.7%). So that most of the development of the toddler is distorted (62.5%). Bivariate analysis, it has been found that all variables have the correlation each one, the toddler nutrition status (p-value 0.000), the level of parent education (p-value 0.000), the parent income (p-value 0.000), and the food consumption (p-value 0.004) towards the toddler development in 3 and 4 years old. Whereas for multivariate analysis, it has been found that the income variable is the dominant variable in the toddler growth in 3 and 4 years old, with the largest OR at 23.401.*

Conclusion*: The majority of respondents have the low nutrition status, the low level of education, the equal of low and high rate of incomes, and the less of nutritious food consumption. Thereby, the most of toddler development is distorted. There is the significant correlation among the toddler nutrition status, the level of parent education, the parent income, and the food consumption against the toddler development in 3 and 4 years old. The most dominant variable of toddler growth in 3 and 4 years old is toddler nutrition status.*

Suggestion*: In the future, may Rau Primary Health Centre in Serang city can often provide counselling to every parent regarding of the nutrition and health programs and more concern to promote the health about the growth and development of toddlers.*

Keywords: Toddler growth in 3 and 4 years old, toddler nutrition status, parent education level, parent income level, and food consumption

BACKGROUND

In the prevalence of Undernourishment (Underweight) the improvements occurred successively from 19.6% in 2013 to 17.7% in 2018 (Ministry of Health, 2019). Despite the decline, the recorded decline is still considered less significant. The World Health Organization (WHO) sets a prevalence limit of 20 percent for malnutrition. In fact, 'closing' cases of malnutrition has been recorded as one of the targets for the second point Sustainable Development Goals (SDGs) of 'zero hunger' in 2030. Indonesia and other United Nations countries are committed to ending all forms of malnutrition, including achieving the world target by 2025.

In Indonesia, one of the public health problems currently being faced is the double burden of nutritional problems. In 1990, the prevalence of undernutrition and malnutrition was 31%, while in 2010 there was a decline to 17.9%, in 2017 to 17.8%. Based on Riskesdas data (2017), the prevalence of overweight in children under five was 4.6%, decreased from the situation in 2007 was 12.2%. Every year no less than one million children in Indonesia experience poor nutritional status. This malnutrition problem can certainly be a threat to the stability of a country, especially developing countries like Indonesia. Infancy is the most vulnerable period for the growth and development of children. As we know before five years the child's brain will experience rapid growth. These times are called the golden period. If in the golden period, children experience malnutrition or prolonged malnutrition, the impact is very large, which can cause children to grow up with limitations (Depkes RI, 2012).

The national movement program for the acceleration of nutrition improvement in the framework of the first thousand days of life explains that the period of the first thousand days of human life is calculated from the first day of pregnancy until the birth of the baby until the second year of the baby. Therefore, this period is called the "golden period", "critical period" and the world bank calls it the "window of opportunity" meaning this period is an important fact as the main door of opportunity, if the mother and the people around her focus on good nutrition. well during the first thousand days of a child's life, from the beginning of pregnancy until the age of two. They have the greatest and best impact on the health and well-being of children in living their lives in the future (BAPENAS, 2013).

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large, which can cause children to grow up with limitations (Depkes RI, 2012).

At the age of 3-4 years the optimal nutritional status and development of children is the result of growth and development that has passed a critical period well, and vice versa. Children from the first thousand days of life with the nutritional supplies provided are fulfilled or cannot be assessed for their possible influence on their development at the age of 3-4 years. So that the magnitude of the problem can be known and it can be estimated what needs are needed to overcome it. The sooner the disorder is detected, the better, and the better prepared to take education in school to realize children as the nation's brightest generation of hope (BABPENAS, 2013).

Judging from the results of monitoring the proportion of poor nutritional status and malnutrition in 2018 it was 17.7% while the RPJMN target in 2019 was 17% (Riskesdas, 2018). From the results of nutritional status monitoring (PSG) conducted by Riskesdas (2017), it is estimated that the nutritional status of the population of Banten province in 2017 is 19.7% of cases of under-five suffering from malnutrition, 29.6% of under-fives suffering from malnutrition, 10.3% of good nutrition and over nutrition 4.7% (Ministry of Health, 2017). And from the results of the monitoring of the Serang City Health Office, it is known that in 2018 there were 62 under-fives who experienced severe malnutrition spread throughout the sub-districts of Serang City. In Kasemen District there are 25 malnourished toddlers, Taktakan 9 toddlers, Serang 12 toddlers, Walantaka 6 toddlers, Cipocok Jaya 2 toddlers and Curug 8 severely malnourished toddlers (Serang City Health Office, 2018). The achievement of the nutrition improvement program in Serang City is actually quite good because there has been a decline every year, although there are programs that have been good, one of the factors causing the lack of nutritional status is the low knowledge, attitudes and behavior of the community towards nutrition and health, this is an indicator for program implementers in the implementation of nutrition programs, so other efforts are needed to solve them because they will have an impact on children's growth and development. Besides being supported by reliable health workers, the role of the family, especially the mother in the family, shows the value that is beneficial for the survival of the child.

Based on the description above, the authors are interested in conducting a research entitled "The Relationship of Nutritional Status with the Development of Toddlers Ages 3 and 4 Years in Kaligandu Village, Rau Health Center, Serang City in 2019."

MATERIALS AND METHODS

This type of research is a quantitative research, with a non-experimental design using a cross-sectional study approach. The data will be analyzed analytically to

determine nutritional status, parental education level, parental income, and food consumption on the development of toddlers at the age of 3 and 4 years in Kaligandu Village, Rau Health Center, Serang City. The population in this study were toddlers in Kaligandu Village, Rau Health Center, Serang City, in December 2018. The sample in this study were some toddlers aged 3 and 4 years in Kaligandu Village, Rau Health Center, Serang City in 2019 which were selected as samples. as many as 64 toddlers. Analysis of the data used in this study were univariate, bivariate and multivariate.

RESULTS

The results of the univariate analysis showed:

Table 1.1

Variable	Total (n)	Percentage (%)
Child Development		
Menyimpang	40	62.5
Sesuai	24	37.5
Child Nutrition		
Kurang	37	57.8
Baik	27	42.2
Education		
Low	43	67.2
High	21	32.8
Parent Earning		
Low	36	56.3
High	28	43.8
Food Consumption		
Bad	35	54.7
Good	29	45.3

Based on table 1.1 above, it is known that most toddlers at the age of 3 and 4 years experienced deviant development as much as 62.5%, more than some toddlers had poor nutritional status, namely 57.8%, the level of education of parents was known to most respondents with low education, namely 67.2%. ., the majority of respondents have a low income that is 56.3%. And some of the toddlers are less in consuming food, namely 54.7%.

The results of the bivariate analysis showed:

Table 1.2

Variable	Child Development				Total		OR (95%)	P valu
	Inadequate		Adequate					
	n	%	n	%	n	%		
Child Nutrition								
Bad	3	51.6	4	6.3	37	57.8	23.571	0.00
Good	3 7	10.9	20	31.3	27	42.2		
Education								
Low	3	54.7	8	12.5	43	67.2	14.000	0.00
High	5 5	7.8	16	25.0	21	32.8		
Earning								
Low	3	48.4	5	7.8	36	56.3	13.089	0.00
High	1 9	14.1	19	29.7	28	43.8		
Food Consumption								
Negative	2	43.8	7	10.9	35	54.7	5.667	0.00
Positive	8 1 2	18.8	17	26.6	29	45.3		

Based on table 1.2 above, it is known that the statistical test results show a significant relationship between the nutritional status of children under five on the development of children aged 3 and 4 years (p-value 0.000). And has an OR value (23,571) which means that respondents with nutritional status of their toddlers are less likely to say that their toddler's development deviates 23,571 times higher than respondents whose nutritional status is good.

The results of statistical tests showed that there was a significant relationship between the education level of parents on the

development of toddlers at the age of 3 and 4 years (p-value 0.000). And has an OR value (14,000) which means that respondents with low levels of education have the opportunity to say that their toddler development deviates 14,000 times higher than respondents with high levels of education.

The results of statistical tests showed that there was a significant relationship between the income level of parents on the development of toddlers at the age of 3 and 4 years (p-value 0.000). And has an OR value (13,089) which indicates that respondents with low incomes have the opportunity to say that the development of their toddlers deviates 13,089 times higher than respondents with high incomes.

The results of statistical tests showed that there was a significant relationship between food consumption and the development of toddlers at the age of 3 and 4 years (p-value 0.004). And has an OR value (5,667) which means that respondents who are less likely to consume food have the opportunity to say that their toddler's development deviates 5,667 times higher than respondents who are good at consuming their food.The results of the multivariate analysis show the results obtained from the early stage multivariate modeling:

Table 1.3
Hasil Analisis Multivariat Tahap Awal

Variabel	P Value	OR (95% CI)
Status Gizi	0.002	23.401 (3.233-169.386)
Tingkat Pendidikan	0.017	10.744 (1.523-75.806)
Penghasilan	0.019	10.158 (1.469-70.215)
Konsumsi Makanan	0.046	6.928 (1.037-46.274)

The next step is to eliminate the selection of variables whose p value is > 0.05. From table 1.3 above, it is known that the early stage of modeling, it can be seen that all the variables resulting from the p value <0.05, so that the multivariate analysis has been completed and the final model has been obtained.

Table 1.4
Model Akhir Hasil Analisis Multivariat

Variabel	P Value	OR (95% CI)
Status Gizi	0.002	23.401 (3.233-169.386)
Tingkat Pendidikan	0.017	10.744 (1.523-75.806)
Penghasilan	0.019	10.158 (1.469-70.215)
Konsumsi Makanan	0.046	6.928 (1.037-46.274)

From table 1.4 above, it is known that the nutritional status variable is the dominant variable in the development of toddlers at the age of 3 and 4 years, the nutritional status variable has the largest OR value of 23,401 so it can be concluded that the group of respondents who have good nutritional status has the opportunity to state the appropriate development of toddlers at the age of 3 and 4 years is 23,401 times greater than the group of respondents whose nutritional status is less

after controlling for education level, income and food consumption.

DISCUSSION

Toddler Nutritional Status on Toddler Development at Age 3 and 4 Years

An overview of the results of statistical analysis of 64 respondents in 2019, obtained a picture of respondents, namely respondents with poor nutritional status, namely 57.8%. This shows that the majority of toddlers aged 3 and 4 years have poor nutritional status.

The results of the analysis of the relationship between the nutritional status of toddlers and their development are known in the group of respondents whose nutritional status is lacking, there are 51.6% who state that the development of toddlers is deviant. The results of statistical tests showed that there was a significant relationship between the nutritional status of children under five on the development of children aged 3 and 4 years (p-value 0.000). And has an OR value (23,571) which means that respondents with nutritional status of their toddlers are less likely to say that their toddler's development deviates 23,571 times higher than respondents whose nutritional status is good.

Parental Education Level on Toddler Development at Age 3 and 4 Years

The description of the results of statistical analysis of 64 respondents in 2019, obtained an overview of parental education, it is known that most of the respondents have low education, namely 67.2%. This shows that the majority of the education of parents of children under five at the age of 3-4 years is low.

The results of the analysis of the relationship between the level of education and the development of children under five, it is known that in the group of respondents with a low level of education there are 54.7% who state that the development of toddlers is deviant and in the group of respondents with a high level of education there are 7.8%. The results of statistical tests showed that there was a significant relationship between the level of education and the development of children under five at the age of 3 and 4 years (p-value 0.000). And has an OR value (14,000) which means that respondents with low levels of education have the opportunity to say that their toddler development deviates 14,000 times higher than respondents with high levels of education.

Parental Income Level on Toddler Development at Age 3 and 4 Years

An overview of the results of statistical analysis of 64 respondents in 2019, obtained a picture of the respondents, namely the majority of respondents had a low income of 56.3%. This shows that the majority of their parents' income is low.

The results of the analysis of the relationship between parents' income and the development of toddlers at the age of 3 and 4 years are known to 48.4% of the respondents with low incomes who stated that the development of their toddlers was deviant

and 14.1% of the respondents with high incomes. The results of statistical tests showed that there was a significant relationship between the income level of parents on the development of toddlers at the age of 3 and 4 years (p-value 0.000). And has an OR value (13,089) which indicates that respondents with low incomes have the opportunity to say that the development of their toddlers deviates 13,089 times higher than respondents with high incomes.

Food Consumption on Toddler Development at the Age of 3 and 4 Years

The description of the results of statistical analysis of 64 respondents in 2019, obtained a picture of the respondents, namely it is known that some of the toddlers are less in consuming food, namely 54.7%. This shows that the majority of toddlers are lacking in food consumption.

The results of the analysis of the relationship between food consumption and the development of children under five are known in the respondent group, which the majority are less in consuming food, there are 43.8% who state that the development of toddlers is deviant and in the group of respondents who are good at consuming food, there are 18.8%. The results of statistical tests showed that there was a significant relationship between food consumption and the development of toddlers at the age of 3 and 4 years (p-value 0.004). And has an OR value (5,667) which means that respondents who are less likely to consume food have the opportunity to say that their toddler's development deviates 5,667 times higher than respondents who are good at consuming their food.

CONCLUSIONS AND SUGGESTIONS

Conclusion

The majority of respondents have poor nutritional status, low education, low income and lack of food consumption. So that most of the toddler's development deviates. There is a significant relationship between the nutritional status of children under five on the development of children aged 3 and 4 years. There is a significant relationship between the education level of parents on the development of toddlers at the age of 3 and 4 years. There is a significant relationship between the income level of parents on the development of toddlers at the age of 3 and 4 years. There is a significant relationship between food consumption and the development of toddlers at the age of 3 and 4 years. And the dominant variable related to the development of toddlers at the age of 3 and 4 years is the nutritional status of toddlers.

Suggestion

It is hoped that the Rau Public Health Center in Serang City can often provide counseling to every parent regarding nutrition and health programs, so that parents, especially mothers, can cultivate a culture of balanced nutrition in the administration of daily meals so that the

influence of negative lifestyles can be controlled. And further improve health promotion programs regarding the growth and development of toddlers.

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