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An Original Article

Correlation of Nutritional Status with Diarrhea Incidence

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A B S T R A C T

Introduction: Diarrhea is a change of intestine movement which is marked by the increasing frequency of defecate and the liquid stool consistency. Diarrhea in lack nutrition toddler is often found in the developing country, the worse nutrition of the toddlers, the worse diarrhea happens to them. Mother's Breast milk and good nutrition enough can be the best prevention to the possibility of diarrhea. The number of toddlers who got diarrhea, the health center gave more attention because it could cause dead for the toddler.
Objective: To investigate correlation between status of nutrition and incidence of diarrhea
Method: this research used quantitative analytic method with cross-sectional approach. The population as many as 1,610 toddlers and the sample taken by using proportional random sampling and got collected 75 toddlers. This research was processed in univariate and bivariate and analyzed by chi square test (X2).
Result: based on the toddler nutrition statue from 75 respondents, the highest frequency was less nutrition as many as 42 toddlers (56,%), the highest frequency of toddler diarrhea occurrence was 47 toddlers (62,7%).
Conclusion: There is a significant relationship between nutrition statue and the diarrhea occurrence in toddlers because a^ p (0,05>0,000) and chi-square value of chi square (X) count > chi square (X2) table (66,237>7,815).

INTRODUCTION

Malnutrition is an important health problem for toddlers (Gupte, 2016). Nutrition is one indicator to assess the success of a country's health development because nutrition helps improve the health and functionalism of the body to build quality human resources (Bernstein & Munoz, 2012). Malnutrition is a major concern that requires timely intervention by government and non-government (Acharya, Teijlingen, Murphy, & Hind, 2015). Nutrition is a major problem faced by developing countries, the vulnerability of children to diseases that affect their growth is caused by a lack of nutrition in children (Arif, 2017). The nutritional status of children is influenced by many factors. Three main factors that influence children's nutritional status are aspects of consumption, children's health, and psychosocial care (Aluisio, Maroof, Chandramohan, & Bruce, 2015).

Nutritional status is the result of many factors that unite into one whole unity in a person (Abbas, Pandey, Verma, & Kumar, 2018). Poor nutrition remains one of the most common causes of morbidity and mortality in children under five throughout the world (Mengistie, Berhane, & Worku, 2013). The cause of death in children under the age of 5 is an infectious disease, but children who die from infectious diseases are usually preceded by an unsatisfactory nutritional condition (Acharya et al., 2015). Low body resistance due to malnutrition causes the body to become susceptible to disease (Chowdhury et al., 2017). Internationally, more than 10 million children under five die every year because of diseases that can be avoided. In general, children who are malnourished have poor immunity to infection, they are more vulnerable to weak health (Acharya et al., 2015).

Diarrhea is a syndrome that is often not distinguished clinically by certain etiological agents (Brandt, Maria, Antunes, & Alves, 2015). Diarrhea is a condition characterized by increasing frequency of defecation more than three times a day accompanied by changes in stool consistency to be more fluid, with / without blood and with / without mucus (Brandt et al., 2015). Diarrhea is the second leading cause of death in children under five years with 1.5 million children dying each year (Awotiwon et al., 2016).

Diarrhea is also a major cause of the incidence of malnutrition in children under five years of age (Carvajal-vélez et al., 2016). Morbidity arising from malnutrition caused by continuous diarrhea and enteropathy due to chronic and recurrent enteric infection often does not count in the estimated burden of diarrhea (Petri et al., 2008). Diarrhea is still a public health problem in developing countries such as Indonesia, because it still often occurs in the form of Extraordinary Events (KLB), and is accompanied by high mortality (Hameed et al., 2016). Clinically the causes of diarrhea can be grouped in several major

groups. They are because of infection, malabsorption, allergies, poisoning, immuno deficiency, and other causes, but often found in the field or clinically are diarrhea caused by infection and poisoning (Yazar, Güven, & Dinleyici, 2016).

The causes are strongly influenced by various factors such as unhealthy feces disposal, habits or behavior, environmental sanitation, etc. (Pfadenhauer & Rehfuess, 2015). in children under 2 years, the average duration of diarrhea in the malnutrition group is 56% longer than the duration of diarrhea in children but the duration can be reduced by administering vitamin A (Kheirkhah, Sharif, Honarpisheh, & Sharif, 2016). Detailed clinical history must be obtained from people with diarrhea, under any circumstances, including when there is a history of the same disease in other people (Shane et al., 2017).

METHOD

This research uses a type of quantitative analytic research with a Cross Sectional approach. The population is 1,610 people, and the sample raising technique uses proportional random sampling technique and is 75 people. This study was processed by Univariate and Bivariate and analyzed using Chie-square (X2) statistical test. They are the independent variable and the dependent variable. The independent variable in this study is the nutritional status of toddlers while the dependent variable in this study is the incidence of diarrhea in infants. The data collection technique in this study uses primary data. The data is directly obtained from the object of the research instrument used in this study is a checklist. In the research data processed by Univariate and Bivariate and analyzed using Chi-square (X2) statistical test. This research was conducted in the working area of Panumbangan Public Health Center in February until March 2018.

RESULTS

From the results of data collection regarding the relationship of nutritional status with the incidence of diarrhea in infants in the working area of Panumbangan Public Health Center, Ciamis Regency as follow:

Univariate

Table 1 Variable Univariate

Variables	Category	f	%
Status of Nutrition	More Nutrition	2	2.7%
	Good Nutrition	30	40.0%
	Lack Nutrition	42	56.0%
	Malnutrition	1	1.3%
Diarrhea Incidence	Yes	47	62.7%
	No	28	37.3%

Bivariate

Table 2 Bivariate Analysis

Status of Nutrition	Diarrhea Incidence		Total	*p* value	X^2 count
	Yes	No			
More Nutrition	1	1	2	0.000	66.237
Good Nutrition	2	28	30		
Lack Nutrition	40	2	42		
Malnutrition	1	0	1		

Based on table 1, from 75 respondents, the highest frequency was lack of nutrition of 42 people (56%). From the results of data analysis, the chi square (X2) value is 66.237 and the value of P value is 0.000. Based on the results of the above data analysis, it can be concluded that there is a significant relationship between nutritional status and the incidence of diarrhea in children under five in the area of Panumbangan Public Health Center in Ciamis Regency because the value of P value <α (0,000 <0,05) and Chi Square (X2) count> Chi square (X2) table (66,237> 7,815).

DISCUSSION

Based on the results of the study, it was found that most of the nutritional status of children in the working area of Panumbangan Public Health Center in Ciamis Regency in 2018 was 42 people (56%). The main problems that affect the nutrition are poverty, low education and lack of skills. The results of this study are in accordance with the theory put forward by (Bain, 2014) which states that in addition to parents' ignorance of the importance of nutrition, other causes of malnutrition are influenced by economic factors. Poverty remains a major contributor to this disease. The vicious circle of poverty and disease worsens this situation. People who are classified as weak economies tend to ignore balanced diets according to the level of nutritional needs needed at a certain age, especially the growth period.

Based on the results of the study, it can be seen that the incidence of diarrhea in children under five in the working area of Panumbangan Public Health Center in Ciamis District, most of the children with diarrhea were 47 people (62.7%). This is because most toddlers with poor nutritional status, so this causes toddlers to have less immune system. Toddlers with less nutrition will be susceptible to diarrhea compared to toddlers with normal nutrition because of the lack of immune system. This is in accordance with the theory from (Nayak, Unnikrishnan, George, Shashidhara, & Mundkur, 2018) which states that nutrition right for children, will lead to adequate growth and good health. If the toddler's immune system decreases, it will be easily attacked by diarrhea.

Based on the results of the study showed that underweight children under five of 95.2% got diarrhea while malnourished children were well of 93.3% did not get diarrhea. From the results of data analyze the chi square (X2) value is 66.237 and the value of ρ value is

0.000. Based on the results of the above data analysis, it can be concluded that there is a significant relationship between nutritional status and the incidence of diarrhea in children under five in the work area of Panumbangan Public Health Center in Ciamis District in 2018 because the value of ρ value <α (0,000 <0,05) and chi square (X2) calculate> chi square (X2) table (66,237> 7,815)

CONCLUSIONS

Based on the results of the analysis, it can be concluded that there is a significant relationship between nutritional status and the incidence of diarrhea in infants in the working area of Panumbangan Community Health Center in Ciamis Regency because the value of ρ value <α (0,000 <0,05) and chi square (X2) count> chi square (X2) table (66,237> 7,815).

IMPLICATION

From this study we can recommend to improve status of nutrition to depress number of diarrhea accidence. Nurse as educator can collaborate with other health practitioner to give health education to improve knowledge status of the parents who has a toddler (Setiawan, Ediati, & Winarni, 2017) .

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