Relationship between Diet and Family Income with Malnutrition in Toddlers in the Working Area of Mamajang Health Center, Makassar City

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ARTICLE INFO	ABSTRACT
	Malnutrition is a health disorder due to a lack or imbalance of nutrients needed for growth. The incidence of malnutrition in toddlers based on data from the Mamajang Health Center in Makassar City in 2019 was 39 toddlers. The purpose of this study was to determine the relationship between diet, family income and the incidence of malnutrition in children under five in the working area of the Mamajang Public Health Center, Makassar City. This research is a type of quantitative research with observational analytic methods and a cross-sectional study design. The number of samples in this study was 39 toddlers or total sampling. Data were collected using a questionnaire and analyzed by chi-square test. The results showed a significant relationship between diet (p-value = 0.003) and family income (p-value = 0.005), with the incidence of malnutrition in toddlers.

INTRODUCTION

Malnutrition is a health disorder due to a lack or imbalance of nutrients needed for growth, thinking activities and all things related to life (1). Toddlers who are malnourished have a higher risk of dying than toddlers who are well-nourished and cause one-third of all causes of child mortality worldwide (2).

Malnutrition and malnutrition are nutritional statuses based on the bodyweight index for age (W/W). The 2018 Basic Health Research (Riskesdas) organized by the Ministry of Health stated that malnutrition in children aged 0-23 months in Indonesia was 3.8%, while the percentage of undernourished was 11.4%. This is not much different from the Nutrition Status Monitoring (PSG) results organized by the Ministry of Health in 2017, namely the percentage of malnutrition in children aged 0-23 months of 3.5% and the percentage of undernourishment 11.3% (3).

The problem of malnutrition and undernutrition has not yet been able to be resolved properly. WHO data shows that as many as 181.92 million children are malnourished. Most (104 million) are children under the age of 5 years. 67% of them are in Asia and 29% in Africa. Meanwhile, in Indonesia, almost no progress has been made in reducing the level of child malnutrition. It is estimated that 18.4% of Indonesian children under the age of five suffer from malnutrition (2).

This study aims to determine the relationship between diet and family income with the incidence of malnutrition in toddlers in the working area of the Mamajang Health Center Makassar City.

METHODOLOGY

The type of research used is quantitative research with observational analytic methods and cross-sectional study design. This research was conducted in the working area of the Mamajang Public Health Center, Makassar City, with a total sample of 39 children obtained by the total sampling technique. Data was collected using a questionnaire sheet. The data were obtained, processed and analyzed univariately and bivariate with the help of the SPSS program.

RESULTS

Table 1 shows that the gender of toddlers, as many as 25 (64.1%) toddlers are male, and as many as 14 (35.9%) toddlers are female. Based on the age of toddlers, the majority are two years old (41.0%), and the lowest is three years old (25.6%). Based on body weight, the most with bodyweight 8-11 kg and 15-17 kg (35.9%), and the least with body weight above 17 kg (2.6%). Based on the height of toddlers, the highest was 93-103cm (51.3%), and the least was 60-70cm (2.6%). Based on under nutrition toddlers, as many as 21 (53.8%) toddlers suffer from malnutrition and 18 (46.2%) toddlers with normal nutrition. Based on family income, as many as 16 (41.0%) with sufficient family income and 23 (59.0%) with less family income. Finally, based on diet, as many as 14 (35.9%) have a good diet, and 25 (64.1%) have a bad diet.

Tabel 1. Distribution of respondent characteristics

Characteristics		n	%
Sex	Male	25	64,1
	Female	14	35,9
Age (Year)	Two	16	41,0
	Three	10	25,6
	Four	13	33,3
Weight (Kg)	8 – 11	14	35,9
	12 – 14	10	25,6
	15 – 17	14	35,9
	18 – 19	1	2,6
Height (cm)	60 – 70	1	2,6
	71 – 81	5	12,8
	82 – 92	13	33,3
	93 – 103	20	51,3
Nutrition	Good	21	53,8
	Not good	18	46,2
Family Income	Enough	16	41,0
	Not enough	23	59,0
Diet	Good	14	35,9
	Not good	25	64,1

Table 2 shows that based on the respondent's diet, it can be seen that of the 14 respondents with a good diet, 12 (85.7%) suffer from malnutrition and 2 (14.3%) with good nutrition. Meanwhile, of the 25 respondents with poor diet, 9 (36.0%) respondents suffered malnutrition, and 16 (64.0%) respondents had good nutrition. From the results of the Chi-Square test, p- value = 0.003 (p < 0.05). This shows a significant relationship between diet and the incidence of malnutrition in toddlers.

Based on the family income of the respondents, it can be seen that of the 16 respondents with sufficient family income, there are 13 (81.2%) respondents suffering from malnutrition and 3 (18.8%) respondents with good nutrition. Meanwhile, of the 23 respondents whose family income is less, 8 (34.8%) respondents suffer from malnutrition and 15 (65.2%) respondents with good nutrition. The results of the Chi-Square test showed p-value = 0.005 (p < 0.05). Thus, it shows a significant relationship between family income and the incidence of malnutrition in toddlers.

Table 2. Analysis of the Relationship between Diet and Family Income with the Incidence of Malnutrition in Toddlers in the Working Area of Mamajang Health Center Makassar City

Risk Factors		Nutrition				Total		p-value
		Good		Not good				
		n	%	n	%	n	%	
Diet	Good	12	85,7	2	14,3	14	35,9	0,003
	Not good	9	36,0	16	64,0	25	64,1	
Family Income	Enough	13	81,2	3	18,8	16	41,0	
	Not enough	8	34,8	15	65,2	23	59,0	0,005
Total		21	53,8	18	46,2	39	100,0	

DISCUSSION

Diet

Diet is a factor that is directly related to nutritional status. Consumption of low-quality or low-nutrition food results in poor nutritional conditions or conditions. On the other hand, good food consumption will make it possible to achieve the best health and nutritional conditions (4). Diet greatly affects a person's nutritional status because eating patterns describe the frequency, amount, and type of food consumption that a person consumes at a certain time. In addition, diet needs to be considered because it will affect growth (5).

Based on the study results that of the 14 toddlers in the Mamajang Health Center Work Area, Makassar City, 12 (85.7%) had a good diet and suffered from malnutrition because of their picky eating habits causing malnutrition. Meanwhile, of the 25 toddlers who stated that a poor diet by suffering from malnutrition, as many as 9 (36.0%) this was due to very minimal socio- economic factors and eating problems that occurred in children generally were the wrong feeding pattern so that it could interfere with growth and development. Hence, the development of the child's body and will cause malnutrition. From the results of the statistical analysis of chi-square obtained p-value = 0.003 (p <0.05), eating patterns are related to the incidence of malnutrition in toddlers in the Working Area of Mamajang Health Center, Makassar City.

The results of this study are in line with the results of research conducted by Ni Putu Eny Sulistyadewi in South Denpasar Kindergarten (2017), which states that diet has a relationship with the incidence of malnutrition in toddlers. This is because the diet is one of the factors in the provision of food. Factors related to the food supply are also supported by availability and purchasing power within households. The provision of family food is usually made by a mother, many of whom do not use nutritious food. This can be caused by a lack of knowledge of nutritious food ingredients.

The condition of the age of toddlers who are still at the stage of dependence in meeting their basic needs for parents or caregivers, making food intake highly dependent on how to care for, how to feed and how to take care of health by parents or caregivers Kartika et al. (2000 in Nina Dwi Lestari 2016). Eating problems that occur in children are generally the wrong feeding pattern and food difficulties. Feeding children should pay more attention to the nutritional content of food so that children's nutritional needs can be met and can support children's growth and development. A balanced diet by the needs accompanied by selecting the right food ingredients will get a good nutritional status (5). If the diet is not achieved properly in children, then growth and development will be disrupted. This will cause a thin, short body and can even cause malnutrition in children (6).

Family Income

The low level of family income will affect the nutritional status of toddlers. This is because family income is related to the family's purchasing power to meet the availability of food in the household or the need for food consumption for survival, growth and development of children (7).

Based on the study results, 13 respondents (81.2%) said that 13 (81.2%) of the 16 respondents in the Mamajang Community Health Center working area stated that their family income was adequate by suffering

from malnutrition. Meanwhile, the 23 respondents who stated that their family income was less by suffering from malnutrition were 8 (34.8%). Therefore, poverty as a cause of malnutrition occupies the first position in general conditions. From the results of statistical analysis and Chi-Square test, the value of p = 0.005 <0.05 means that family income is related to the incidence of malnutrition in toddlers in the Mamajang Community Health Center Makassar City.

This study is in line with the research results conducted by Sundary & Satriyandari (2016) that there is a relationship between family income and the incidence of malnutrition in the work area of the Plereet Health Center Bantul.

The low level of family income will affect the nutritional status of toddlers. This is because family income is related to the family's purchasing power to meet the availability of food in the household or the need for food consumption for survival, growth and development of children. Changes in income can affect nutritional parenting patterns, which directly affect food consumption in toddlers. Increased income means increasing opportunities to buy food of better quality and quantity. Conversely, a decrease in income will cause a decrease in the quality of the food purchased. The proportion of undernourished toddlers is inversely proportional to income. The smaller the income, the higher the percentage of toddlers who are malnourished. The higher the income, the lower the percentage of malnutrition.

This study is in line with the results of research conducted by Abdul Muhith (2014) that one of the factors that influence the nutritional status of toddlers is the family's economic level. The economic level, especially if those in the family live below the poverty line (underprivileged families), is useful for ascertaining whether the family can buy and choose foods that have high nutritional value for their children. The economy has always been a determining factor in the child's growth process. Families with sufficient economy can meet the nutritional needs of their children (8). Therefore, nutritional status is closely related to economic conditions. If the family has an upper-middle economic level, then the nutritional status of toddlers is expected to be better.

CONCLUSION

This study concludes that there is a relationship between diet and family income with under-nutrition in toddlers in the working area of Mamajang Health Center, Makassar City. Mothers are expected to pay attention to the toddler's diet so that malnutrition does not occur.

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