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Correlation Between Dietary Intake With Protein Energy Malnutrition of Child 1-5 Years Old In Posyandu Kenanga 3 Bulak Banteng Surabaya

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Abstract

Protein energy malnutrition is a state where low consumption of energy and protein in the daily diet. Composition of the dietary intake is the frequency and amount of food consumed by a person at any given time. Dietary intake is one of the significant factors affecting the incidence of protein energy malnutrition. This study aims to determine the correlation between dietary intake with protein energy malnutrition of child 1-5 years old in posyandu kenanga 3 bulak banteng surabaya. The design of this study was non-experimental namely Case Control. Researchers using sampling techniques with simple random sampling and obtained 36 respondents who meet the inclusion and exclusion criteria. Implementation research on diet performed 3 times a week to meet the testing criteria diet. The research instrument used was a diet questionnaire namely food recall and food frequency. In this study, data analyzed Coefficient Test Kontingency with a significance level of $p < 0.05$. Through Kontingency coefficient test, there is a relationship between diet with the incidence of protein energy malnutrition with the results of $p = 0.00$. From these results it can be concluded that there is a correlation between dietary intake with protein energy malnutrition of child 1-5 years old in posyandu kenanga 3 bulak banteng surabaya. So the toddler diet should be increased by adding extension posyandu about good food intake for sake improving the quality child life.

Key words: Protein Energy Malnutrition, dietary intake, food recall

Introduction

Health is the most important thing in life, to support optimal health requires adequate intake of nutrients or intake to achieve the optimal energy used to conduct daily life. Many problems in terms of nutrition that attack the community. One of the problems experienced by developing countries is nutrition problems. One of the nutritional problems lacking or malnutrition can cause one of the diseases known as protein energy malnutrition. The highest prevalence of protein energy malnutrition occurs in children under 5 years old, pregnant women, and lactating mothers (Pudjiadi, 2005). This is possible because the pattern of consumption of foods that are less good so the body does not have enough energy and nutrients to perform daily activities. There are high

population of toddlers with protein energy malnutrition in Surabaya. There are several factors like social, economic, biological and environmental problems. The dietary intake also contributes to creating a problem of protein energy malnutrition.

The World Health Organization (WHO) estimates that 54 percent of child deaths are caused by poor nutrition. Data obtained from Depkes (2012) found from the population of Indonesia about 340 million people found toddlers with malnutrition conditions that as many as 4.9% and toddlers with less than 13.0% of nutritional conditions. From the data also found the prevalence of under five children with malnutrition as much as 4.8% and toddlers with less nutrition as much as 12.3% of the population of East Java 784,000

inhabitants/km². From preliminary study conducted at posyandu Kenanga 3 Village of Bulak Banteng of Kenjeran Subdistrict found 17 children under five malnutrition children under five suffered from malnutrition from total of 65 infants who were included in posyandu coverage area in April 2014.

Toddlers is high risk of this condition. Deficiency and excess nutrient intake can affect health status and growth and development. One of the diseases caused by nutritional problems is protein energy malnutrition. Protein energy malnutrition is a condition where low energy and protein intake in the daily diet (Bulan, 2008).

Method

This research uses non-experimental method with case control research design. This research was conducted on 13-18 June 2014 in Posyandu Kenanga 3 Bulak Banteng Surabaya. The population in this study were children 1-5 years old and their parents at Posyandu Kenanga 3 Bulak Banteng Surabaya 40. Samples in this research are some children aged 1-5 years and their parents in Posyandu Kenanga 3 Bulak Banteng Surabaya which amounted to 36. Sampling technique in this research is Probability Sampling by Simple Random Sampling. Instruments used in this study are questionnaires and observation sheets. The questionnaire contains demographic data of 4 questions and a Food Recall 24 questionnaire with table-shaped contents of eating habits and the amount of food consumed during the day by respondents and Food Frequency Questionnaire (FFQ) units with 20 points of frequency. And the type of food that represents the body's needs (carbohydrates, proteins, fats, snacks and fiber sources) measured for at least 1 week.

Research Result

1. Dietary Intake Use Food Frequency Instrument

<i>food frequency</i>	Frequency	Persentase (%)
Less (0-20)	20	55,6 %
Enough (21-40)	15	41,7 %
Good (41-60)	1	2,8 %
Total	36	100 %

From this table frequency child with less dietary intake about 20 respondent (55,6%).

2. Dietary Intake Use Food Recall Instrument

<i>food recall</i>	Frequency	Persentase (%)
Defisit (<69% AKG)	11	30,6 %
Less (70-79% AKG)	6	16,7 %
Inaught (80-99% AKG)	10	27,8 %
Good (>100% AKG)	9	25 %
Total	36	100 %

From this table child with intake dietary defisit (<69% AKG) about 11 respondent 30,6%.

3. Protein Energy Malnutrition

State nutrition	Frequency	Persentase (%)
Normal Protein Energy	12	33,3 %
Protein Energy Malnutrition	24	66,7 %
Total	36	100 %

Based on this table child with protein energy malnutrition about 24 respondent (66,7%).

4. Correlation Between Dietary Intake With Protein Energy Malnutrition

		Nutritional State				Total		Koef. Kontingensi	Value
		Normal		Protein energy malnutrition					
		N	%	N	%	N	%		
<i>Food frequency</i>	Less	1	5	19	95	20	100%	0,563	0,000
	Enaught	10	66,7	5	33,3	15	100%		
	Good	1	100	0	0	1	100%		
Total		12	33	24	66,7	36	100%		

3

P value 0,000

Koefisien Kontingensi with p value 0,000 < 0,05. From these results it can be concluded that there is a correlation between dietary intake with protein energy malnutrition of child 1-5 years old in posyandu kenanga 3 bulak banteng surabaya use food frequency instrument.

		Nutritional State				Total		Koef. kontingensi	Value
		Normal		Protein energy malnutrition					
		N	%	N	%	N	%		
<i>Food Recall</i>	Defisit	0	0	11	100	11	100%	0,523	0,004
	Less	2	33,3	4	66,7	6	100%		
	Enaught	3	30	7	70	10	100%		
	Good	7	77,8	2	22,2	9	100%		
Total		12	33	24	66,7	36	100%		

3

P value 0,000

Koefisien Kontingensi with p value 0,000 < 0,05. From these results it can be concluded that there is a correlation between dietary intake with protein energy malnutrition of child 1-5 years old in posyandu kenanga 3 bulak banteng surabaya use food recall instrument.

Discuss

1. Correlation Between Dietary Intake With Protein Energy Malnutrition Of Child 1-5 Years Old In Posyandu Kenanga 3 Bulak Banteng Surabaya Use Food Recall Instrument

The results of the above table can be explained from the number of respondents as many as 36 respondents in Posyandu Kenanga 3, that most of the children have low frequency of eating (55,6%) and in table 5.9 mentioned that most of the children have deficit of food consumption (30,6 %). Many factors affect the diet in every toddler, one of which is a socio-economic problem. Many toddlers have parents with less education. This is very influential on toddlers, because parents who have a low level of education will be difficult to receive information for the development and growth of toddlers. A toddler's diet will be good if parents get

enough information. Information obtained from many sources, one of the information obtained from posyandu Kenanga 3 is about toddler nutrition and food intake that should be given in toddlers. If parents are able to absorb good information, the toddler's diet will be good too. But not only the level of education that affects, income levels also affect. People's purchasing power is heavily influenced by the amount of money they have, and it comes from family income. The more income, the better food intake.

Result also explained that most of the children in Posyandu Kenanga 3 experienced less protein energy (66,7%). Occurrence Less protein energy usually occurs in high risk groups. Which includes high-risk age are toddlers, pregnant women and lactating mothers. Factors that affect the incidence of protein energy that is less socioeconomic, diet, immunization, history of disease and health services

(Prangga et al, 2008). From the research that has been done is known that socioeconomic factors and diet can be a significant cause of less protein energy in infants. As has been previously explained education and producer have an influence on the incidence of less protein energy. Factor diet or nutritional intake also affects the incidence of less protein energy. This is evidenced by the test relationship between diet with the incidence of protein energy.

From the Contingency Coefficient test that correlates between the diet with the occurrence of less protein energy obtained p value for the frequency of eating is $0.00 < 0.05$, which means H_0 rejected or there is a relationship between the frequency of eating with the incidence of less protein energy and the results p value for The amount of food consumed is $0.004 < 0.05$, which means H_0 is rejected or there is a relationship between the amount of food with the incidence of less protein energy. It has been explained before that diet has several indicators, including the frequency of eating and the amount of food consumed. Both of these dietary indicators have a relationship with the independent variable (Less Energy Protein). Therefore it can be concluded that the diet has a relationship with the incidence of less protein energy in children aged 1-5 years in Posyandu Kenanga 3 Bulak Banteng Surabaya. The result of SPSS also get the result of the correlation coefficient for the frequency of eating equal to 0,563 and for the amount of food consumption equal to 0,523, which means that both indicators are in the correlation strength range 4.0-0,599 or in other words into the correlation category is. Of all the above results it is said that the diet affects the incidence of protein energy less dal it is necessary to be understood by the public for the incidence of less protein energy can be reduced or even eliminated to prevent further events are more severe.

A diet or pattern of food consumption is the order of the frequency and amount of

food consumed by a person or group of people at a certain time (Yayuk Farida Baliwati, 2004). The frequency of eating is the number of meals in a day. The frequency of eating in this study was measured using Food Frequency. At the age of toddlers the frequency of eating the same as adults, ie morning, afternoon, and evening coupled with a food between lunch-lunch and day-night. In the research area at posyandu Kenanga 3 Bulak Banteng Surabaya got the result that the frequency of eating less balita. Pada table 5.11 explained that most of the under-five who have KEP have less frequent feeding frequency (95%). This is because toddlers in this area many who eat 2x a day with food interlude, there is also eating 3x a day without food interlude. Foods consumed are also not diverse, can be said in a day toddlers consume the same type of food. Parents of toddlers say if the lack of frequent feeding of children under five due to their children do not want to eat or difficult to eat. This can be supported because the type of food consumed by children is not diverse, so toddlers feel bored so do not want to eat. There needs to be a good cooperation between parents, toddlers and health workers to improve the pattern of food intake so that in terms of frequency of eating does not enter under the conditions less, because the lack of eating frequency resulted in less protein energy events. If this continues for a long time, the incidence of less protein energy will be more severe.

In the table above also explained that most of the under-fives who experienced KEP have a deficit in the amount of food consumption (100%). In this case the amount of food consumption refers to Nutritional Adequacy Ratio (AKG). Deficit category is $\leq 70\%$ of established AKG. From the results of food recall test to determine the amount of food consumption in toddlers found that many of the toddlers whose amount of food is less than the predefined AKG. From field

facts, many toddlers consume little food. One example of the respondents that the 2-year-old toddlers are AKG standard energy is 1250 kcal, after the interview and recall food recall obtained the result that the amount of consumption of eating the toddler <1000 kcal. This can reduce energy and energy reserves in the body so that toddlers will be more passive. In general, malnutrition that occurs in children can be a continuation of a state of malnutrition that has started since infancy. The frequency of administration and the amount of nutrient intake given determine the nutritional status of children (Prangga et al, 2008). Less protein energy will occur when the body's need for calories, protein, or both is not fulfilled by the diet. Both forms of deficiency are not uncommon to walk side by side, although one is more dominant than others (Arisman, 2009). Toddlers will initially look limp, not powerful, and look not cheerful. If this continues, toddlers will fall into a state of protein energy.

Based on the results of this research interview, obtained some samples have irregular eating habits, toddler diet is also not good because food consumption is almost the same in every day. Time for toddlers is also not regular, because parents toddlers only feed toddlers when toddlers want to eat or want to eat. Therefore, researchers argue that diet has a significant relationship to the incidence of less protein energy. Field facts that have been studied also shows the relationship of diet with the incidence of less protein energy in toddlers at posyandu Kenanga 3 Bulak Banteng Surabaya. This is reinforced by the number of literature that shows the relationship between the two.

Conclusion

Based on the results of research that has been done by researchers at 1-5 years of age at Posyandu Kenanga 3 Bulak Banteng Surabaya can be drawn some conclusions that there is a relationship between diet with the incidence of less protein energy in

children 1-5 years of age in Posyandu Kenanga 3 Bulak Banteng Surabaya because in the diet test found that the results of the frequency of eating test with food frequency is less and the test results the amount of food consumed with food recall is a deficit. From the results of contingency coefficient test results obtained $p = 0.00 < 0.05$ which means H_0 rejected or no relationship.

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