
The Effect of Nutrition Counseling on Nutrition Intake and Weight Growth for Children Aged Less than Five Years in Tombo-Tombolo Village, Bangkala District, Jeneponto District

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ABSTRACT

The intake of nutrients a child obtained through daily consumption of food plays a major role in the child's life. The parameters to measure the progress of usable growth were weight. If the children were measured weight periodically, the picture or pattern was gotten of growth of the child. This study aimed to determine the effect of nutritional counseling on nutrient intake and weight growth of children under five in the village Tombo-tombolo district Bangkala Jeneponto district. Counseling was done 3 times 30 minutes a month. This study was a pre-experimental study with one group pretest-posttest design. Samples are 33 children, that was children aged 6 - 24 months were chosen purposively. The data of nutrient intake was obtained through the method of an interview using the 24-hour recall method for 2 days, body weight data obtained by weight measurement by comparing growth patterns in KMS. The data were analyzed using the McNemar test using SPSS program. Mc Nemar test results were indicated that there was influenced nutrition counseling on energy intake, p-value = 0.03. There was no effect of nutritional counseling on protein intake, p-value = 0.25. There was the influence of nutrition counseling to fat intake, value p = 0.03. There was an influence of nutrition counseling to growth weight of children under five, value p = 0.01.

Keywords: Counseling nutrition, Energy, Protein, Fat, Weight**INTRODUCTION**

Nutritional problems were occurred in every life cycle, starting in the womb (fetus), infants, children, adults and old age. The period of the first two years of life is a critical period because during this period there was very rapid growth and development. Nutritional disorders that occur in this period are permanent and cannot be recovered even though nutritional needs in the next period are met. At the individual level, nutritional conditions are influenced by nutritional intake and associated infectious diseases. If someone does not get enough nutrition will experience malnutrition and easily get sick. Likewise, if someone is often sick, it will cause an appetite disorder and subsequently will lead to malnutrition⁽¹⁾. Early childhood is often expressed as a critical period in order to get quality human resources, especially in the first 2 years period is a golden period for optimal brain growth and development⁽²⁾.

The relatively low level of population education and public knowledge and awareness in the health sector is thought to be a major cause of nutritional problems. One step that can be taken to help with nutritional problems is through nutritional counseling⁽³⁾. Nutrition counseling is a very important part of disease prevention and health improvement because, through counseling, individuals are taught to think about their own problems so they don't get sick. The results of Basic Health Research in South Sulawesi Province in 2010 showed the percentage of energy consumption in Jeneponto district was 73.6%. While the percentage of protein is 71.4%⁽⁴⁾. Nationally, the population of Indonesia that consumes energy below the minimum requirement (less than 70% of the nutritional adequacy rate for Indonesians) is as much as 40.7%, the population that consumes protein below the minimum requirement (less than 80% of the nutritional adequacy rate for people Indonesia) is 37%⁽⁵⁾.

The nutrition a child receives through daily food consumption plays a big role in the child's life. The parameter to measure growth progress that is commonly used is weight. If a child is measured periodically, then a picture or pattern of growth of the child will be obtained⁽⁶⁾. Nutrition counseling is a combination of expertise and skills in psychology that is done to help someone who has or is at risk with nutritional problems caused by ignorance, lack of motivation or both. This study aims to determine the effect of nutritional counseling on

nutrient intake and weight growth of children under five in Tombo-Tombolo Village Bangkala District Jeneponto District.

METHODS

This research was an experimental study pre experiment with one group pretest-posttest design. Nutrition counseling was done face-to-face about balanced nutrition, MP-ASI and growth disorders using leaflet media. The frequency of counseling 3 times 30 minutes a month in the village of Tombo-Tombolo, the target was the mother of children under five.

The population in this study were all children under five years old who were registered in all posyandus in the village of Tombo-Tombolo, Bangkala sub-district, Jeneponto, totaling 148 children under five. The sampling method with inclusion criteria is children under five of Posyandu participants in Tombo-Tombolo village, living in Tombo-Tombolo village, healthy and willing to be given counseling. The sample in this study as many as 33 people namely children aged 6-24 months were selected purposively. Respondents in this study were mothers of children under five.

RESULTS

In this study, the samples were children aged 6-24 months in Tombo-Tombolo village, Bangkala district, Jeneponto district. The sample in this study consisted of 33 children under five. the number of children under five with male sex are 19 people (57.6%) and girls are 14 people (42.4%). The level of education of junior high school caregivers was 12 people (36.4%) and high school students were 21 people (63.6%). Respondents' occupations were 7 (21.2%) traders / entrepreneurs, 1 (3.0%) employees and 25 (75.8%) Housewives (IRT).

Nutrient Intake

Table 1. Distribution of energy intake for children aged less than five years

Energy intake	Nutrient intake			
	Before counseling		After counseling	
	n	%	n	%
Good	11	33.3	18	54.5
Less	22	66.7	15	45.5
Total	33	100	33	100

Table 1 shows that before nutrition counseling the energy intake of children under five was good 11 (33.3%), less 22 (66.7%) and after nutritional counseling was good 18 (54.5%), less 15 (45, 5%).

Table 2. Distribution of protein intake for children aged less than five years

Protein intake	Nutrient intake			
	Before Counseling		After counseling	
	n	%	n	%
Good	26	78.8	29	87.9
Less	7	21.2	4	12.1
Total	33	100	33	100

Table 2 shows that before nutritional counseling the protein intake of children under five was good 26 (78.8%), less 7 (21.2%) and after nutritional counseling was good 29 (87.9%), less 4 (12.1%).

Table 03. Distribution of fat Intake for Children aged less than five years

Fat intake	Nutrient Intake			
	Before Counseling		After counseling	
	n	%	n	%
Good	4	12.1	11	33.3
Less	29	87.9	22	66.7
Total	33	100	33	100

Table 3 shows that prior to nutrition counseling, fat intake for children under five was good 14 (12.1%), less 29 (87.9%) and after nutritional counseling was good 11 (33.3%), less 22 (66.7%).

Table 4. Distribution of growth intake for children aged less than five years

Weight	Weight growth			
	Before counseling		After counseling	
	n	%	n	%
Increase	3	9.1	14	42.4
Unincrease	30	90.9	19	57.6
Total	33	100	33	100

Table 4 shows that the weight growth of children under five before nutrition counseling was increased by 3 (9.1%), did not increase by 30 (90.9%) and after nutritional counseling was increased by 14 (42.4%), did not increase by 19 (57.6%).

Effect of Nutritional Counseling on Nutrient Intake

Table 5. Effects of Nutrition Counseling on Energy Intake for Children aged less than five years

Nutrition counseling	Energy intake				
	Good		less		p-value
	n	%	n	%	
Before	11	33.3	22	66.7	0.03
After	18	54.5	15	45.5	

Table 5 shows information statistical test results using the McNemar test obtained p-value = 0.03 (p < 0.05) so that it was concluded there was an influence of nutritional counseling on energy intake.

Table 6. Effects of Nutrition Counseling on Protein Intake for Children aged less than five years

Nutrition counseling	Protein intake				p-value
	Good		less		
	n	%	n	%	
Before	26	78.8	7	21.2	0.25
After	29	87.9	4	12.1	

Table 6 shows information about tatistical test results using the McNemar test obtained $p = 0.25$ ($p > 0.05$) so that it was concluded there was no effect of nutritional counseling on protein intake.

Table 7. Effects of nutrition counseling on fat intake for children aged less than five years

Nutrition counseling	Fat intake				p-value
	Good		After		
	n	%	n	%	
Before	4	12.1	29	87.9	0.03
After	11	33.3	22	66.7	

Table 7 showed information about statistical test results using the McNemar test obtained $p = 0.03$ ($p < 0.05$) so that it was concluded there was an influence of nutritional counseling on fat intake.

Table 8. Effects of Nutritional Counseling on Weight Growth for Children aged less than five years.

Konseling gizi	Berat badan				p-value
	Increase		Unincrease		
	n	%	n	%	
Before	3	9.1	30	90.9	0.01
After	14	90.9	19	57.6	

Table 8 shows information about statistical test results using the McNemar test obtained $p = 0.01$ ($p < 0.05$) so that it was concluded there was an influence of nutritional counseling on the growth of under five children weight.

DISCUSSION

Nutrient intake

Nutrient intake is the ability to consume dishes that are divided into nutritional components. The level of consumption of nutrient intake is influenced by many things such as the level of education, knowledge, purchasing power, availability and preferences, and tastes of the family⁽⁷⁾. The results of nutrient intake of children under five years before nutrition counseling obtained energy intake was good 11 (33.3%), less 22 (66.7%), protein intake is good 26 (78.8%), less 7 (21, 2%) and fat intake which was good 14 (12.1%), lacking 29 (87.9%). While the results of nutrient intake of children under five years after nutrition counseling was

obtained energy intake was good 18 (54.5%), less 15 (45.5%), protein intake was good 29 (87.9%), less 4 (12, 1%) and fat intake which is good 11 (33.3%), less 22 (66.7%). The cause of nutrient intake which was lacking despite getting nutritional counseling was inadequate parenting, infectious diseases, education and attendance at Posyandu. This is different from Hasmirawati Nur's research (2009) in Maccile Soppeng district, in general, the energy intake (92.3%), protein (74.4%) and fat (66.7%) all categories are good⁽⁸⁾. In contrast to research conducted by Muhamad Asrar (2009) in Maluku, most of the samples were included in the category of inadequate namely the average value of energy and protein (<80%) in the amount of 76.53% and 79.80% RDA. The second deficiency of nutrient intake was due to the fact that most of the samples consume an incomplete daily menu and the frequency of eating also supports the reasons for the lack of energy and protein intake of the sample⁽⁹⁾.

Weight Growth of Toddlers

Weight is the most important and most commonly used anthropometric measure. During infancy and toddler weight could be used to see the rate of physical growth and nutritional status. Based on the results of research that has been done, it was found that the weight growth of children under five before nutrition counseling was increased by 0, not increased by 33 (100%) and after nutritional counseling was increased by 7 (21.2%), did not increase by 26 (78.8 %). Weight assessment data was sourced from the results of weighing children under five years and seen in the Card to Health (KMS) and then assessed to increase or not increase according to the Increase in Minimum Body Weight (KBM). The reason for many children under five who do not gain weight one of which was the intake of food received by children under five. This was similar to the study of Henny Cahyaningsih (2007) in Bandung that various nutritional variations turned out to be 51 respondents (86.3%) gained weight after 10-14 days. However, there were still 10 respondents (16.4%) whose weight did not increase.

Effect of Nutritional Counseling on Nutrient Intake

Nutritional deficiencies will have an impact on the growth and development of children under five, so in this study nutritional counseling was done to improve the understanding of mothers of the children under five years about the importance of nutrient intake in meeting the needs of their children. Statistical test results using McNemar test obtained $p = 0.03$ ($p < 0.05$) so that it was concluded there was an influence of nutritional counseling on energy intake, for protein intake the value of $p = 0.25$ ($p > 0.05$) so that it was concluded there was no effect of nutritional counseling on protein intake. While the fat intake obtained p -value = 0.03 ($p < 0.05$) so that it was concluded there was no effect of nutritional counseling on fat intake. Besides that, there was no effect of nutritional counseling on protein intake because of knowledge, education and social economy. This research was in line with the research of Hestuningtyas (2013) in Semarang that by doing nutritional counseling could facilitate mothers in receiving nutritional information so that the practice of feeding toddlers was not good⁽¹⁰⁾. This was different from Yuniarti's research (2013) in Yogyakarta that nutritional counseling has not been able to increase protein intake but can only increase energy and fat intake⁽¹¹⁾.

Effect of Nutritional Counseling on the Weight Growth of Toddlers

During infancy to children aged under five years, weight could be used to see the rate of physical growth and nutritional status. Growth as an increase in overall physical body size or as an increase in the number or size of cells⁽¹²⁾. Statistical test results (McNemar) there is the influence of nutritional counseling on the growth of underweight children under the age of $p = 0.01$ ($p < 0.05$). This was in line with Yusuf's research (2012) in Palembang, after a nutritional counseling intervention, there was a change in the nutritional status of both the experimental group increased greater than the control group of 7 toddlers (70%) while the control group of 5 toddlers (50%). Statistically (Mc Nemar test) there was the effect of nutritional counseling on undernourished toddler toddlers⁽¹³⁾.

CONCLUSION

Conclusion

1. The average energy intake of preeclampsia mothers who had good intake was only 13 (38.3%), and less 21 (61.7%).
2. The average protein intake of preeclampsized mothers who had good protein intake was only 12 (35.3%), and was lacking 22 (64.7%), fat intake that had good intake 16 (47.0%), and less 18 (53.0%), then good carbohydrate intake 10 (29.4%), and less 24 (70.6%).
3. The nutritional status of preeclampsia mothers who had normal nutritional status was 31 (91.2%), and was lacking 3 (8.8%).
4. There was no relationship between energy intake in preeclampsia patients ($p = 0.584$).
5. There was no relationship of protein intake with the incidence of preeclampsia ($p = 0.611$)
6. There was no relationship of fat intake with the incidence of preeclampsia ($p = 0.416$)
7. There was no relationship of carbohydrate intake in preeclampsia patients ($p = 0.649$).
8. There was no relationship between nutritional status in preeclampsia patients ($p = 0.547$).

Suggestion

1. It is recommended for pregnant women to always look after pregnancy by maintaining nutritional status, improving eating patterns by following a hospital diet, consuming nutritious food, adequate rest and exercise.
2. For other researchers, it should conduct a study with a larger sample design and conduct further research related to the incidence of preeclampsia using other factors that have not been studied such as micronutrients and multiple / twin pregnancies and so on.

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