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Influence the Awarding of a Purple Sweet Potato Snack (Ipomoea Batatas Poiret) and Flour Anchovies (Stolephorus) in Toddlers Stunting in The Region of Clinics Paccerakang Makassar

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ABSTRACT

An increase in the incidence of disease caused by stunting along with the occurrence of degenerative diseases. Directly caused less intake of less and the presence of infectious diseases. Indirectly, such as the environment, social cultural and economic. One of the alternative treatment with primary food intake increases and the granting of a snack. This research aims to know the influence of awarding the purple sweet potato and snack flour anchovies on childhood stunting. Quasi experimental design research approach pre test post test with the control. Samples taken toddlers suffering from stunting. The location was done in Makassar and Mamuju. Snack made from purple sweet potato and flour anchovy designed with value energy 160 calories and protein 3.5 to 5 grams its serving a day given once. The results obtained occurs gaining weight and height on both treatment and control means both before and after the intervention. But if the comparison group treatment and control are not meaningful. Nutritional status before treatment index TB/U short and very short 26 (86%) on the Group's treatment and 26 (86%) on the group control and after treatment in the treatment group 26 (86%) and group control 15 (50%). Index BB/TB before treatment thin and very thin on treatment group 4 (13.3%) and on the group control 11 (36.6%) after treatment group treatment 26 (86%) and group control 22 (73%). Conclusion change of nutritional status improved in smaller treatment group. An increase in weight and height but have not yet reached the standard. Suggestion allotment of purple sweet potato and snack flour anchovy can proceed given to toddlers.

Keywords: *snack, purple sweet potato, flour anchovy, toddler stunting.*

Introduction

Less nutritional problems and malnutrition to date this has not been resolved completely. The results of the monitoring of the nutritional status of infants (0-59 months) years 2016 nationally with the index BB/U the malnutrition 3.4% and 14.4% less nutrition[1,2,6]. According to index TB/U children extremely short 8.5% and 19% short. While according to index BB/B very thin child 3.1% and 8.1% a skinny child[3,4,5]. Picture in South Sulawesi as follows based on the index BB/U children suffer malnutrition 4.4% and 16.5% less nutrition. For index TB/U children extremely short 7.5% and 19.1% short[7,8,15]. According to index BB/TB and the very thin 7.5% and the skinny[9,10,14].

The cause of the problem of malnutrition is a factor. Factor in the risk of children suffering from nutritional problems is less intake, presence of infectious diseases such as ISPA, measles, diarrhoea, intestinal worms. Other factors such as the environment (means, clean water), social culture and economy. Short term relief is correct the child's diet and intake, cure a variety of ailments suffered companion infection or disease. For the long term is to improve income levels (economic) family[12,13,17].

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The impact of this nutritional problem in the long term would interfere with growth and development and child health. This will cover the impact of cognitive and skills to work. This will result in the generation of low-quality, not being able to compete globally[18]. One of the programs the Government in solving the main nutritional problems prevent a high number of stunting is additional feeding. Food additives can be a snack such as a purple sweet potato and snack flour anchovy.

Anchovy is a local food with a variety of advantages, can be consumed fresh or processed into flour. Benefits for the growth and development of brain function in children as well as the health as prevention of heart disease. This is supported by the high protein content, fatty acid omega three levels as well as vitamins and minerals[7].

Purple sweet potato is a local food with a variety of advantages and beneficial to health. High fiber, low carb, rich in antioxidants and vitamins and minerals. The disadvantage is its low protein content[18,19]. To make the purple sweet potato processed can be enhanced with the addition of flour protein value of anchovy. New food produced like a snack have a better nutritional value and can be consumed by people including children are toddlers.

Still high toddlers suffering from stunting his food intake needs to be increased. One of the ways that can be done is by the giving of snack made from purple sweet potato ingredients flour and anchovy[19]. Awarding of purple sweet potato and snack flour anchovy is expected to be beneficial in increasing weight and height child stunting. The purpose of the study is to know the influence of awarding the purple sweet potato and snack flour anchovy against stunting toddler nutrition status.

Material and Method

The research method used was quasi experiment pretest and posttest control group. Before given a snack both groups rated the status of its nutrition value. Next to the Group's treatment was given a snack for one month (30 days) while the control group not given the treatment. After the intervention of two groups finished re-assessed the status of its nutrition value[10,15]. The results were analyzed in descriptive and statistical test using pairet T test.

The population is all of the toddlers who experience stunting work area clinics Paccerakkang in Makassar and the toddler in the working area clinics Kaluku Mamuju.

Sample treatment is a toddler who suffered stunting a work area clinics Paccerakkang selected random simple. Sample control is a toddler who suffered in the region a stunting clinics Kaluku Mamuju. The respondent was the mother of a toddler sample. Great sample treatment and control groups each of 30 children. Sample criteria is age 11-60 years and healthy time of data collection. The measured variable is the status of child nutrition toddler and children's food intake. Data on nutritional status in Anthropometry with index BB/U, TB/U and BB/TB. Measured parameters gender, age, weight and height. Book Anthropometry used WHO antro 2005. Food intake was measured by the method of the 24-hour food recall when, then analyzed the value of its nutrition value using DKBM. Analysis of the research done on variable descriptive statistics and analysis. To know of any changes before and after intervention with the test paired T-test

Findings

Formulation of draft refers to the proportion of the nutritional value of snacks in the amount of 10% of the adequacy of energy and protein. The adequacy of the energy group 6-59 months of 1125-1600 kcal protein and 26-35 grams everyday. Therefore this snack designed 10% of adequacy of energy and protein so energy made 160 kcal and 3.5 to 5 grams of protein its portion is big and it is hoped children could spend. Snack purple sweet potato and anchovy flour that is made is:

1. Cake/bolu purple sweet potato and flour anchovies (163.8 energy kcal, protein 3.3 g/porsi)
2. The purple sweet potato Croquette mix and flour anchovy (161.8 6.0 energy grams protein and/porsi)
3. The purple sweet potato mud cake and flour anchovies (166.5 kcal of energy and protein 4.2 grams)
4. The purple sweet potato and Nugget flour anchovies (163.7 Kcal energy and protein 7.0 g/porsi)
5. The ball is the ball of purple sweet potato and flour taste salty anchovy (159.4 energy and protein 7.5 g)
6. The ball is the ball of purple sweet potato and flour anchovies (sweet) (163.0 energy and protein 7.5 g/porsi)
7. Prol the purple sweet potato and flour anchovies (153.1 Kcal of energy and protein 4.8 g/porsi)

8. Tarajong (156.0 kcal of energy and protein 3.6 g/ porsi)
9. Talam Cake the purple sweet potato and flour anchovies (153.2 kcal of energy and protein 3.2 g/ porsi).

Research Variables

Changes in body weight, height, the intake of energy and protein: Very stable weight influenced daily food intake and the conditions of measurement. When the officer less when weighing more can occur due to an attribute that is used the child forget the minimized state of the tool and weigh whether new or already measure or not for a long time. Children's health conditions such as diarrhea, heat or fevers, vomiting cough long will have an impact on the child less appetite and cause weight loss.

The increase in weight occurred in both groups, the Group of treatment going on average increased weight of 0.5833 kg while in control group of 0.1300 kg. The larger increase in the Group's treatment.

Height is more stable and the parameters that describe what happened in the past. Height children can't go down. If the current high less than his normal reflects his past is indeed short at the time were born or mother suffering from malnutrition when she was pregnant. After birth the baby is not getting enough nutrient intake to catch up growth in the womb[12,14,17].

Child nutrition intake method using 24-hour food recall describing what is consumed over the past 24 hours ago are starting to wake up until the night before going to bed. Recall when at the beginning of the study and research on the end just gave an overview of the time and not give an actual description of what is consumed during one month. If linked with other parameters such as gaining weight then this intake has been giving the effect of a particular time subs. These changes can be seen in diagrams 1 to 4.

Table 1: Distribution of average variable weight, height, and energy intake protein treatment and control group

Variable	Group	Before	After	p
Weight (kg)	Treatment	8,64	9,5	0.000
	control	9,78	9.91	0,066
Height	Treatment	78,89	79.08	0.000
	control	82,00	82.04	0.009
Energy intake	Treatment	471.6	801.1	0.000
	control	837.8	969.4	0.000
Protein intake	Treatment	21.7	28.9	0.000
	control	23.7	27.7	0.000

Source: Primary data 2018

Table 2: Distribution of nutritional status according to index BB/U groups before and after intervention

	Before				After			
BB/U	Treatment		Control		Treatment		Control	
	n	%	n	%	n	%	n	%
Very less	16	53,3	14	46.7	8	26.7	9	30
Less	14	46.7	16	53,3	22	73.3	21	70
Total	30	100	30	100	30	100	30	100

Source: Primary data 2018

Table 3: Distribution of nutritional status according to height index (TB/U) before and after treatment

	Before				After			
TB/U	Treatment		Control		Treatment		Control	
	N	%	N	%	n	%	n	%
Very short	14	46,6	17	56,6	14	46,6	17	56,6
Short	16	53,4	13	43.4	16	53.4	13	43.4
Total	30	100	30	100	30	100	30	100

Source: Primary data 2018

Table 4: Distribution of nutritional status according to the index weight according to height (BB/TB) before and after treatment

	Before				After			
BB/TB	**Treatment**		**Control**		**Treatment**		**Control**	
	N	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Very skinny	3	3,3	1	3,3	2	6,6	1	3.3
Thin	14	46,6	6	20	12	40	6	20
Normal	13	43,4	23	76.7	16	53.4	23	76,7
Total	30	100	30	100	30	100	30	100

Source: Primary data 2018

Discussion

Nutritional status is a reflection of the intake of nutrients and the body's ability to use and exploit it are reflected in body size and proportions of the body. Parameter commonly used height, weight against age, the proportion of weight against height and other nutritional status according to the distribution of the index weight according to age (BB/U), height according to age (TB/U) and weight according to height Agency (BB/TB).

Nutritional status with weight loss index according to age (BB/U) gives an overview of the current state. In table 3 above seen less status and very less dominating group treatment and control group before the intervention. There is an increasing change after intervention of nutritional status is very less is becoming less good nutritional status on treatment group or the control group. This condition can be affected by intake and State of health of the child. The passive consumer is a toddler treatment where the intake is still very dependent on the mother or his running mate. On the other hand if the mother thinks her son can already self-sufficient so that it becomes less attention plus the children getting to know food courts. The consumption of snacks such as crackers, assorted biscuits and milk packaging is often given after the midmorning meal at lunch time and would not eat or given drink milk 2 cups of morning, noon and night. This can affect children's food intake. Weight loss is a labile parameters are easy to change[18,19].

Nutritional status with TB/U index gives an overview of growth and nutrient intake in the past even when the mother's nutritional state is pregnant. In this study the change in TB/U after intervention was only a small increase of around 0.1cm - 0.2cm and some even remained no change. This time the intervention assumption is only 30 days and at the time of research there were child illness (fever, flu and cough). It is like declaring the results of the research there is 2016 Siska relationship knowledge of pregnant women and the intake of nutrients with a baby born short in Karanganyar Regency and Ernawati 2013 also stated there is the influence of protein intake of pregnant women and the length of the body. In this study the increase relative height is small and this state of Affairs indicates that at this age children are indeed slow than the age of the baby.

Nutritional status with the index BB/TB provides an overview of the current state and past. On the Group's treatment before the intervention there are 13 (43.44%) normal children and 14 (46.6%) children are thin and very thin 3 (3.3% 0 changed after the intervention of a normal kid into 16 (53.4%, skinny kid that 12 children (40%) the family and the very thin 2 children (6.6%). on the group control and the very thin 1 children (3.3%) a child has not changed, the skinny 6 children (20%) unchanged and the normal of the 23 children (76.7%) do not change. The increase of the very thin on the Group's treatment caused the end of intervention child illness (fever, cough, flu). The same thing also happened in the control group that is a sick child but did not decrease the weight of the child. This situation can be seen in table 4.

Stunting has not yet reached normal levels. The granting of this snack can proceed as a healthy snack of the child and the family.

Conclusion

The conclusion of the Formula of purple sweet potato snack and anchovy flour to increase the intake of energy and protein toddler stunting. It has been created

by as much as 9 items snack for toddlers stunting but have yet to achieve adequacy nutritional stunting toddler. An increase in weight and height but not yet reached normal nutritional status.

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