

# AN ANALYSIS OF THE IMPROVEMENT OF NUTRITIONAL STATUS AMONG TODDLERS DUE TO NUTRITION RECOVERY PARKS

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## ABSTRACT

**Introduction:** Nutrition Recovery Park activities require an active participation from all relevant elements. To achieve a good nutrition status for toddlers, it is a necessary activity. This is an innovative garden activity proclaimed by Jombang Regent. Ongoing activities during this specific time can overcome the nutritional problems in Tembelang District, Jombang regency. **Method:** The study follows a Quasi-Experimental Design. The place of the study is Gabus Banaran village and Kalikejambon village at Tembelang district, Jombang regency. The research was carried out for 3 months from May to July 2017. The Samples of experiment were toddlers in Gabus Banaran village and Kejambon River village, who were malnourished. As many as 50 uncomplicated malnutrition children were taken for the experiment. Purposive sampling technique was used and for data analysis t-test analysis was used. **Results:** The result of study showed an effect Toward Improved Weight (TPG) activity due to improvement of nutritional status of toddlers. **Conclusion:** So, based on the results of the study, it can be declared that parents must be more concerned about nutritional intake of the toddlers because nutritional problems may affect the development of children.

**Keywords:** TPG, Nutritional Status, Toddler

## INTRODUCTION

Nutrition is a very important component needed for the body, especially for toddlers because at this age the brain cells are growing rapidly. Nutrition status of toddlers is crucial because growth and development of the body determine the growth of the toddlers. The brain cells are the main foundation of toddlers' intelligence. The growth of brain cells starts since being in the womb until 2 years after birth, and slows down from 3-4 years. So, at this period toddlers should be given a good and healthy food which contains a good nutrient which helps in the growth of the brain (Susanti & Sustini, 2016). Inadequate eating and care to them cause high malnutrition of children (Vazir, 2013).

The nutritional status of a toddler is an indicator that describes the level of nutritional status of the community. Malnutrition is a health problem that need appropriate intervention strategy. Factors that influence nutrition and

diet are social economic condition and self sanitation . The research about the nutritional status of toddlers by anthropometric method using Body Mass Index (BMI) is body measurement compared to age. These are: Weight by Age (BB / U or Weight/Age), Weight by Body height or Height by Age (TB/U or Height/Age). The result showed that toddlers with BGM (Under Red Line) were 372 toddlers (0.48%), while Nutritional status was gained by less than 4,160 toddlers (6.54%) and malnutrition status was given to as many as 372 toddlers (0.53%). This situation showed a good development where the number of BGM toddlers decreased compared to 2013. In 2013 BGM toddlers amounted to 462 (0.57%), Nutritional status was given to less than 3791(5.7%), and Malnutrition status was given to 462 (0.69%).

With the existence of various kinds of nutritional problems, the government has put in various efforts. One such effort is the establishment of Jombang

Regency in 2009 to overcome the nutritional problems with the organization of Nutrition Recovery Park (TPG). At nutrition recovery park (TPG), mothers along with their toddlers were given optimal guidance regarding nutrition and energy of a child, because it would be directly related to the growth and development of the child. Nutrition Recovery Park is also equipped with educational game tools that can provide a comfortable and safe environment for toddlers.

But the nutritional problem did not stop here. Mu'alimah, Kartini & Sriatmi's (2014) explained that the knowledge level on TPG did not reach maximum point as the cadres have not received training yet. As for the attitude of cadres in the implementation of TPG itself, it is positive because TPG can be one of solutions to solve the nutritional problems in Jombang regency. The material obtained by the cadre was not well structured. As a result the community and village population received information verbally and they did not participate optimally. From the above problems, it is hoped that the present research will play a significant role to improve the quality of malnutrition and under nutrition in children especially in the region of Jombang regency. The study will play an optimal role in promoting health programs formulated by the government.

**RESEARCH METHODOLOGY**

Quasi experimental research method is used in this experiment. The independent variable was the TPG activity and the dependent variable was the nutritional status of toddler. Patient population in this research is 50 with a sample of 32 respondents. Sampling method used was purposive sampling technique. The time of the research was May - July 2017, the research site was Gabus Banaran village and Kejambon village, Tembelang sub-district, Jombang district.

TPG research was conducted in 3 rounds with 12 days consisting of feeding children in every single round. If in three rounds the children were not present, then they were dropped out of the research. This research activity begins with medical examination by doctor to screen the disease suffered by the respondent, if there are complication of disease it would be excluded from research and they were included in TFC (therapeutic feeding center) program that exist in health center.

To determine the nutritional status of toddler the weight and height of toddler was measured on the first

day of research activity. After recording the weight every day the toddler is given processed food by the mother in the presence of the cadre. After giving the food, they were engaged in an educational game to stimulate the development of toddlers. On the last day of the third round the weight and height was recorded again to determine the improvement of nutritional status. The instrument used is *p*-score to estimate the nutritional status of children. Data were analyzed using *t*-test with significant level  $p < \alpha (0.05)$ .

**RESULTS AND DISCUSSION**

*Table 1: Distribution frequencies of characteristic respondents in two villages*

Characteristics of the sample	The village of Cork Banaran		Kalikejambon Village	
	Frequency	Percentage (%)	Distribution	Percentage (%)
Level of education:				
No school	0		0	
Basic	2	9.52	2	18.18
Medium	17	80.95	8	72.73
High	2	9.52	1	9.9
Work:				
Not work	20	95.24	9	81.82
Work	1	4.76	2	18.18
Family Count:				
Independent	5	23.81	6	54.55
Dependent	16	76.19	5	45.45

Source: Primary data, 2017

*Table 2: Distribution of frequencies of respondents based on pre and post nutritional status of TPG activities*

Nutritional status	Pre-test		Post test	
	Frequency	Percentage (%)	Distribution	Percentage (%)
Good	0	0	26	81.3
Less	3.1	96.9	6	18.8
Bad	1	3.1	0	0
Total	32	100	32	100

Source: Primary data, 2017

*Table 3: Test of t-test on nutritional status of toddler and post TPG activity*

Paired Sample Test										
Pair	Paired Differences							<i>t</i>	df	Significance (2-tailed)
	Mean	Standard Deviation	Standard Error Mean	5% Confidence Interval of the Difference		Lower	Upper			
				Lower	Upper					
Pair 1	Before after	-0.0875	0.421	0.074	-1.027	-723	-11.751	32	0.000	

The table showed the result of mean of the test - 0.875, standard deviation is 0.421, while standard error

mean 0.075, so the significance 92-tailed) is 0.000.

Based on table 1 most of them, almost all (96.9%) of pre-test respondents had less nutritional status, and maximum (81.3%) of posttest respondents had good nutritional status. Early childhood is an important period in the process of child growth. Mothers play a crucial role especially as mothers are nearest to their children during this period. This was in accordance with the reference that growth is an increase in number and the amount of cells in part of the body that can be quantitatively measured by weighing and measuring. Based on the guidebook on Nutrition Recovery Park it can be observed that minimum three months of growth development is required to determine the improvement of nutritional status of children. The improvement in the growth and nutritional status of the child can be caused because of the mother's participation in the activities in the village.

Toddlers growth is not concerned with only one intervention but needs modification or multi-intervention, especially for toddlers with nutritional problems. This is in line with the research by Ramakharisman *et al.* (2004). In his research the study experiment design used vitamin A and iron. Infants were given only iron or vitamin A interventions. But this did not improve the nutritional status of children.

So for the proper growth of toddler TPG activities were appropriate in dealing with nutritional problems. This procedure must be observed very closely so that early detection of increase in weight of the toddler is ascertained quickly. Toddler mother must learn every activity of TPG and they are also taught how to present food that are appropriate with toddler especially related to its nutritional content. The mothers were very enthusiastic in the first year regarding the TPG activities and they followed them diligently. It is a solution to resolve problem related to nutritional status that existed in Jombang. This programme is supported by the active role of the health worker especially midwife in each village to promote and play a role concerning every TPG activities.

This study showed that more TPG activity is very effective and is highly successful in improving the nutritional status of toddlers. The TPG activities must be compatible to improve nutritional status of the toddlers. Most of the TPG activity improves nutritional status of toddler. Research by Wahyuningsih (2012) about TPG activities and nutritional status found positive effect on

toddler's growth. One of the factors that support this program is the role of cadres and midwives and more importantly the mother's motivation and the toddler's response.

Many of the toddlers with malnutrition were accompanied by co-morbidities. If a toddler with malnutrition were often sick then it was very difficult to maintain his growth. Research by used supplementary food to improve the nutrition of toddler less than five years of age, while in a research by Kimutai *et al.*, (2009), hypo-phosphataemia in children less than five years of age were presented with the prevalence of kwashiorkor and marasmic kwashiorkor. Both of these studies revealed that there is a need to improve the nutrition status of the children for their proper growth and development.

In this study the data used as a reference to improve the nutritional status of the toddlers were primary data. The present study compared the body weight of the toddlers' pre and post interventions. Many toddlers do not get nutrition corresponding to their age. Moreover, if they are taken care of by grandmother or others then health status is not monitored correctly. Most of the caregiver gives the toddlers foods that will make them feel happy to keep them silent by providing them food or snacks that are tasty but not healthy. This disturbs their growth of the toddlers. Parenting techniques are very decisive of toddler's development. Other thing which influence is mother's behavior. Good parenting would influence status of toddler's nutrition. Role of the cadre and officer too influence toddlers' health. Cadre's liveliness to motivate toddlers' mothers was a very important thing because cadre was someone who's closer with community and know more about toddler's condition (Hardiyanti, 2017). Gender also influences toddler's nutrition. Boys' height and weight increase faster than girls (Khan, 2011).

## CONCLUSION

Thus it can be concluded that based on the above research conducted over a period of three months, from May to July 2017 in two villages, Gabus Banaran and Kejambon, Tembelang sub-district, Jombang district revealed important analysis of toddler's growth and development and their subsequent nutritional interventions. The research throws light on the analysis of TPG activity on nutritional status of toddlers which was found to influence Nutrition Recovery Park activities affecting nutritional status of toddlers.

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