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## **EFFECT OF THE HEARTH PROGRAM ON STUNTING PREVENTION BEHAVIOR**

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### **ABSTRACT**

The research aims to analyze the effect of the hearth program on maternal behavior in preventing stunting. Ethics clearance has been received from the Ethics Committee in Kupang. This study used a pre-experimental method with a one-group pretest-posttest design. The sample consisted of thirty people who were randomly selected. They are toddlers who live with their parents in Kuanheun Village. Stunting prevention behavior was obtained through interviews using a questionnaire. The children's weight and height were measured before and after the hearth program. This activity is carried out twice for three months by involving all participants. Data analysis used a paired t-test. The research showed that the hearth program had an effect on the mother's behavior. This study has not fully implemented the positive deviance approach. It will be better to applied for the next program. So the researchers can use this method with a better initial investigation and involve the community and all community leaders.

Keywords: behavior; hearth program; stunting; toddler

### **INTRODUCTION**

Stunting in children is mainly caused by inadequate nutrition. In terms of the physical development of children, no studies have found that nutrition is more important than heredity. In general, people think that heredity has no effect on physical development. The socialization of stunting prevention that should be carried out with efforts to meet the nutritional needs of children from birth to the age of two is often hampered by this misunderstanding. Stunting toddlers usually appear normal and healthy, but further examination reveals additional characteristics that are precisely the problem. Stability affects a child's metabolic system in addition to their cognitive and physical abilities. In addition, Prasetyani emphasized that children with stunting will experience abnormally slow physical growth and brain development. Children whose mental abilities are below average are affected, as is their ability to learn. Even their learning outcomes are usually less than other children. Stability has long-term consequences in increasing the risk of hypertension, diabetes, and infection-related mortality (Darmayanti and Puspitasari 2022).

Basic health research in 2013 and 2018, showed the highest stunting rate was in the Province of East Nusa Tenggara (Kementerian Kesehatan RI 2013). This data is still very far below the national target, even placing that province as the first province with the highest stunting rate in the country (Kementerian Kesehatan RI 2018). Worldwide, it is estimated that the number of stunted children will increase. Due to limited access to nutritious and nutritious food, this number is likely to increase significantly. Nutrition is especially important during the COVID-19 pandemic, and full recovery from stunting can take years. Therefore, if the global goal of reducing the number of stunted children to 104 million by 2025 and 87 million by 2030 is to be

achieved, additional efforts are needed (UNICEF/WHO/WORLD BANK 2021). For the long-term health and physical and mental development of a child, adequate nutrition from birth is essential. As a result of low availability or inability to access foods of appropriate nutritional quality or exposure to conditions that impede the absorption and utilization of nutrients, large parts of the world's population are overweight or obese, have vitamin and mineral deficiencies, or both, to varying degrees different. across population groups. These conditions are often present simultaneously and are interconnected (Beal et al. 2018).

The nutrition program for families is the Hearth Program. Poor education and nutrition are often the causes of malnutrition. It is hoped that families especially mothers can overcome malnutrition with the help of the Hearth program (Sugianti 2020). Through activities at home, parents collaborate to teach and practice positive behaviors. Feeding and medication or seeking health care are significantly associated with malnutrition in under-five children. Eating habits are a major contributor to the high incidence of malnutrition in children under the age of five. One of the latest initiatives aimed at reducing the high rate of malnutrition is the Hearth Program. The mothers showed Improvement in childcare practices after participation in the hearth program. The success of a nutrition program is largely determined by positive behavior at home, food donations from mothers or caregivers, and their presence and active participation (Gizella, et al 2016). The village officials are expected to play a role at the regional level in exploring the local potential for improving nutrition by giving more power to local communities. The community itself is very important and is the key to success in reducing stunting, especially through awareness, healthy living behavior, and a balanced diet (Darmayanti and Puspitasari 2022).

This research was conducted in Kuanheun Village, precisely in West Kupang District. The village with the highest stunting rate was selected. The hearth program as a special forum for nutritional services for toddlers has not yet been formed at the village. In addition, nutrition cadres lack training too. Although efforts have been made by a number of parties to improve nutrition and stop stunting, actually there are still many families whose diets are poor. This study developed a hearth program to empower the community, especially mothers of toddlers to reduce stunting cases in toddlers. The mother's role is very important in the management of the family and the child's nutrition. Understanding how to feed and care for stunted children is very important for mothers of toddlers. It is because stunting has an effect that is difficult to repair and can harm children later in life. If you allow stunting to occur in children, then this will be the biggest challenge for the Indonesian people because it will lead to a low quality of human resources of productive age in the future. The purpose of this study was to determine how the behavior changes of mothers after the hearth program in an effort to prevent stunting in toddlers.

## **METHOD**

This study was a one-group pretest-posttest design in the pre-experimental approach. The populations were 107 children under five whose mothers lived in the Kuanheun village area. The mothers who answered the questions were mothers of toddlers who suffer from stunting. The sample as many as at least 30 people was selected by a simple random. The child in this study must be the biological child of the respondent, not suffer from a disabled, have an MCH handbook, and the mother must be willing to sign a letter of consent to interview. The research was conducted in the West Kupang sub-district. The study lasted for three months from August through November, with two times rounds of hearth program. Data were collected through interviews using a questionnaire and a 24-hour recall guideline. The children were measured for weight and height/length before and after joining the hearth program. Analyzing the data

using a paired t-test to see whether the hearth program influenced the mother's behavior to prevent stunting.

## **RESULTS**

### **Respondent Characteristics**

The percentage of maternal education is most in senior high school (40 %), elementary school (30 %) others in junior high school, and undergraduate. One of the mothers has not completed her education in elementary school or less than 6 years of school (3,3 %). The majority of fathers' occupations as farmers, including port and construction workers (66.7%), and the rest are casual or non-permanent jobs. It is shown that the father's income status per month was below the Regional Minimum Wage (73.3 %) (Table 1).

Table 1.  
Respondent characteristics (n= 30)

Respondent characteristics	f	%
Gender (child)		
Male	16	46,7
Female	14	53,3
Age (month)		
< 24	5	16,7
≥ 24	25	93,3
Father's education level		
Primary school	15	50
Junior high school	7	23,3
Senior high school	6	20
Undergraduate	2	6,7
Mother's education level		
Illiterate	1	3,3
Primary school	9	30
Junior high school	7	23,3
Senior high school	12	40
Undergraduate	1	3,3
Father's occupation		
Honorary employee	1	3,3
Entrepreneur	9	30
Farmer	20	66,7
Father's income status		
≥ IDR 1,150,000	8	73,3
< IDR 1,150,000	22	26,7

### **The weight of children**

Prior to joining the hearth program, all toddlers weighed less than 12.5 kilograms. After attending two sessions of the Hearth program, the weight of each child under five increases to about 0.5 to 2.5 grams (figure 1).

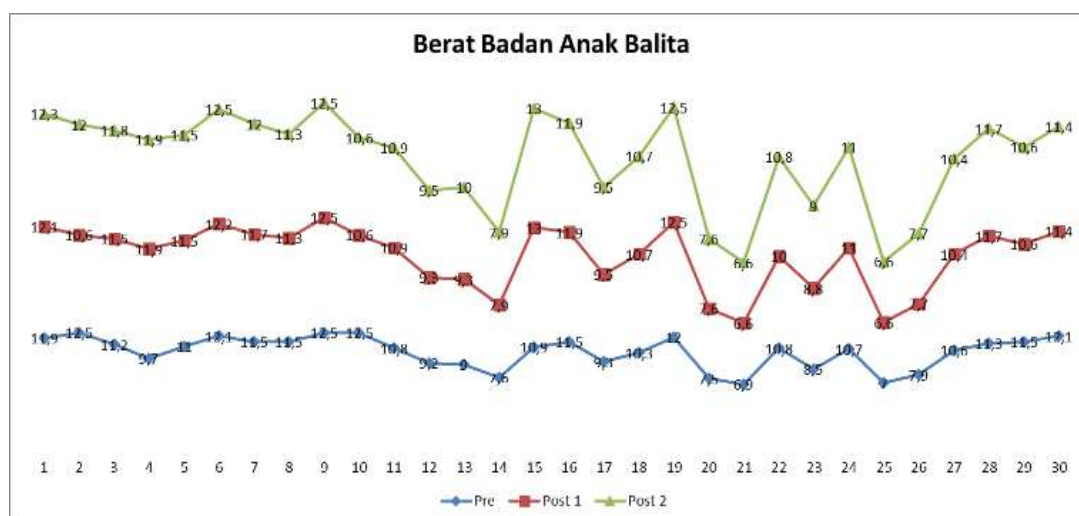


Figure 1. The weight of children

### Behaviour of Mother

The percentage of mothers' behavior in caring, child feeding, and seeking treatment at a health facility showed bad (60%) before joining the hearth program compared to after joining the hearth program (93.3%) most of the mothers' behavior became better (Table 2).

Table 2.  
Mothers Behaviour (n= 30)

Variable	Pre		Post	
	f	%	f	%
Mothers behavior				
Good (> median)	12	40	28	93,3
Bad ( $\leq$ median)	18	60	6	6,7

### The Effect of Hearth Program on Mother's Behavior

The results from paired t-test show the mean of mothers' behavior before they are joint the hearth program 0,40 with a standard deviation of 0,498 and a standard error mean of 0,09. The mean mother's behavior after joint a hearth program was 0,93 with a standard deviation of 0,254 and a standard error mean of 0,04. The results from the paired samples test were mean of the mother's behavior was 0.533 with a standard deviation of 0.507 in the first measurements and the second. The statistical test resulted in a p-value of 0.000. It is shown that the mother's behavior before participation in the hearth program was significantly different from after this program. So we conclude that all activities of counseling, and education accompanied by joint nutritional practices provided through the heart program affect the behavior of mothers in an effort to stunting prevent in children (Table 3).

Table 3.

The effect of hearth program on mother's behaviour (n=30)

Variable	Mean	SDD	SEE	P-value	nn
Mother's behavior					
Pre-hearth program	0,40	0,498	0,09	0.0000	30
Post-hearth program	0,933	0,254	0,04		0

## **DISCUSSION**

The mother's behavior was evaluated at the beginning and end of the hearth program, after two rounds of the program. The Hearth program is a place for nutrition education and rehabilitation. A hearth program cycle is a series of twelve-day activities which two parts. Firstly, consisting of 6 days of practice together in the local area (one of the houses from residents or cadres that is used as a place to learn and practice nutrition). Secondly, followed by the mother practices independently feeding and caring for the child for 6 days at home (accompanied by nutrition cadres). It is to explore the use of existing local knowledge and resources to rehabilitate stunted children. The measure of the child's height and weight as well as the mother's knowledge and behavior is the next step. This method is used to observe how mothers of toddlers change their behavior. Changes in the way the mothers feed their children, handle child hygiene, care for and treat their children, and try to get medical assistance are used in this study to demonstrate how the success of the hearth program.

Due to the distance between houses, two nutrition cadres should ideally work in one nutrition post, especially in rural areas. While the children who participated in this study were around 30 people. The number of trained nutrition cadres is just five people, it is still felt to be lacking. In general, the cadres feel are not ready and confident to work independently. They prefer to work in groups or gather and practice together. We find it difficult to organize a Hearth program in a large group because mothers tend to ignore the educational material presented. They cannot focus on following the practice. One of the contributing factors is that the nutrition post environment becomes a place for children to play so it is crowded. In addition, mothers pay more attention to their children playing. It's a good experience that we have learned to improve the next program.

This study shows that the hearth program affects how mothers act in preventing stunting in toddlers in Kuanheun Village. Previous research has shown that there are four types of observable behavior: the first eating behavior is the consumption of certain healthy foods, the second is the frequency of food consumption, and the amount of food consumed; how a family interacts with its children is known as parenting behavior. Three is physical, food, and environmental hygiene are all aspects of hygienic behavior; fourth, various preventive health behaviors, efforts to seek medical help when sick, and the use of health services are caring behaviors (Child Survival Collaborations and Resources/CORE, 2004). The stages of situation analysis, a survey of research sites for good classification, the introduction of the concept of positive deviation to the public, identification of perpetrators of positive deviation, and preparation of an active investigation team are some of the unfinished stages in the preparation and implementation of this research. The lack of government and community involvement can be seen in families who have not been involved in providing food assistance, or money from the local government through village funds. The only indication of support from the government is an invitation to the community to participate in this nutrition program. However, it seems that the mother's behavior has changed significantly. This study is in line with Sugianti's research in Bojonegoro Regency which showed that in terms of input, funding and contributions of food ingredients were lacking, as well as the quality of human resources. The positive deviation investigation has not been completed from a process perspective. However, maternal hygiene behavior and parenting behavior are effective in terms of implementation (Sugianti 2020).

Children's eating habits are influenced by various factors, including family and community factors. Unfavorable socio-cultural conditions, such as party culture and neglect of child

nutrition, exacerbate malnutrition in children, especially stunting. Families in Kuanheun Village also often receive rice and cash assistance from the government and non-governmental organizations. Another assistance is in the form of additional food that is given for a long period of time, which can result in a very high level of dependence. The low contribution of household food is mainly due to this. One of the efforts to prevent malnutrition in children is the Hearth Program which is based on the idea of family empowerment. Empowering families as much as possible to use locally available food at home to improve the nutritional status of children is one of the most significant actions taken. The local governments have not utilized funds optimally to address nutritional problems. The Kuanheun Village government also does not specifically budget funds to address nutritional problems in children under five. Research by Boli and friends claims that the local government of East Nusa Tenggara has not used the budget optimally to deal with nutritional problems in children. The nutritional problems that afflict children under five in this village are almost never specifically budgeted for. Although nutrition-related activities have become a top priority, it is believed that budget allocations are insufficient to implement nutrition policies effectively. The implementation of sustainable nutrition will be successfully implemented if it is supported by budgetary assistance from the government (Boli, et al, 2018).

Hearth programs are community programs that need everyone in the community to get involved. Implementing agencies cannot run a successful Hearth program without community participation and support as this process requires independent community discovery and action. Several previous studies used the positive deviation method to run the hearth program, and it was reported that it was successful in reducing malnutrition in children under five. This study did not fully apply the method which indicates there are limitations in the results of the study.

## **CONCLUSION**

In an effort to prevent stunting in toddlers in Kuanheun Village, West Kupang sub-District, the hearth program has an effect on changes in mothers' behavior in caring for and feeding children, maintaining cleanliness, and seeking treatment in health services. It is suggested that the next researcher can apply the positive deviation method to run this program by conducting a better preliminary investigation stage.

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