

# Evaluation of Implementation Program for Giving Additional Recovery Food for Bad Nutrition Children in the 2017 Manokwari District, Masni Health Center

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## ABSTRACT

**Background:** Masni Health Center is one of the Puskesmas in the Manokwari District Government area, with 98 underweight children (BB / TB <SD) as many children, and the highest in Manokwari district. While since 2011, the government through the Ministry of Health has issued Guidelines for the Supplemental Food Recovery for children with malnutrition with BOK funds. Before this, the provision of additional food for recovery had been carried out to improve the nutritional status of children under five.

**The aim of the study** was to evaluate the implementation of an additional food recovery program for malnourished children in the Masni health center.

The research methodology was a qualitative descriptive study with a case study approach, which took place at the Masni Health Center in Manokwari Regency, on October 9 to November 9, 2018, with 3 informants as main informants, and 2 triangular informants.

**The results of the research** from the input aspect have been carried out in accordance with the guidelines of the Ministry of Health, 2011, only at the method stage which did not work in accordance with the guidelines. U for aspects of the process at the preparation stage is not maximal, in terms of determining foodstuffs and the formation of toddler groups. Foodstuffs used for PMT are not local food but manufacturers, at the stage of implementation and monitoring, have proceeded in accordance with the guidelines, the stages for recording and reporting, routine recording is carried out every month and reporting to the Puskesmas only, then reports to the Health Office are not smooth, often rapel.

While for the output aspect of the activity scope, out of 21 children who received 100% PMT recovery received PMT for 3 months. In terms of targeting accuracy, distribution and time are in accordance with the guidelines.

**Keywords:** Evaluation, Recovery PMT, Malnutrition Children, Masni Health Center.

## 1. INTRODUCTION

According to the World Health Organization (WHO) in 2016, the prevalence of short toddlers is a public health problem if the prevalence is 20% or more. Therefore the percentage of short toddlers in Indonesia is still high and is a health problem that must be addressed. Compared to several neighboring countries,

the prevalence of short toddlers in Indonesia is also highest compared to Myanmar (35%), Vietnam (23%), Malaysia (17%), Thailand (16%) and Singapore (4%) (UNSD, 2014). The 2017 Global Nutrition Report shows Indonesia is included in 17 countries, among 117 countries, which have three nutritional problems namely stunting,

wasting and overweight in children under five.

The Indonesian Ministry of Health in 2016 implemented Nutritional Status Monitoring (PSG), which is a cross-sectional study with 27.5% of households having children under five in Indonesia consisting of very short 8.5% and short 19% with the highest percentage of 34 the provinces with West Sulawesi Province were 39.7, East Nusa Tenggara as much as 38.7%, West Kalimantan as much as 34.3%, West Papua as much as 30.2% and Papua as much as 27.9% (Ministry of Health, 2017).

The problem of stunting toddlers illustrates the existence of chronic nutritional problems, influenced by the condition of the mother / prospective mother, fetal period, and infancy / infancy, including diseases suffered during infancy. Like other nutritional problems, not only related to health problems, but also influenced by various other conditions that indirectly affect health (Ministry of Health of Republic of Indonesia, 2016). The causes of stunting in infants due to the economic crisis are influenced by various interrelated factors, especially food intake and infectious diseases. Both of these factors are influenced by family purchasing power, family size, eating habits, parenting patterns, ank and pregnancy care, basic health services, sanitation and other environmental and social factors (Supariasa, 2012).

Several studies related to the causes of stunting in balinese from Anisa (2012) revealed that there was a relationship between maternal education and the incidence of stunting in children under five. Paudel's research in Nepal (2012) shows that low birth weight is a risk factor for stunting, toddlers with low birth weight have a risk of stunting 4.47 times greater than toddlers with normal birth weight. In addition to birth weight factors, birth length is another risk factor for stunting. The higher education level of mothers has a relationship to good care for children, such as: the use of iodized salt, giving vitamin A

capsules, complete immunization and good sanitation (Supriyanti, 2014).

Stunting toddlers in Manokwari Regency from the data from the Manokwari District Health Office from 13 Puskesmas (Warmare, Prafi, Mansinam, Wosi, Sanggeng, Amban, Pasir Putih, Nuni, Maripi, Masni, Mouwbja, Sidey and Tanah Rubuh) stunting data for the highest toddlers in the Puskesmas Sanggeng from 522 toddlers as many as 83 toddlers (15.9%) and Wosi Puskesmas from 176 toddlers there were 43 toddlers (24.43%) stunting. Based on the description of the problem above, so the authors are interested in conducting a study entitled "Factors that Associate with the incidence of stunting in infants in Sanggeng Health Center and Wosi Manokwari Regency, West Papua Province".

## **2. MATERIALS AND METHODS**

### **A. Type and Design of Research**

This study is an observational analytic study that aims to determine the influence of two or more variables (Sugiyono, 2013). This study explains the relationship affects and is influenced by the variables to be studied. Using a cross sectional study approach with data collection carried out simultaneously at one time (Notoatmodjo, 2012).

### **B. Place and Time of Research**

Place

The place for conducting this research was conducted at the Sanggeng Health Center and Wosi Community Health Center, Manokwari Regency.

Time

This research was conducted in October 2018.

### **C. Population and Samples**

Population

The populations in this study were all toddlers in July - August 2018 in two health centers, namely 501 Sangeng Public Health Centers and 152 Wosi Community Health Centers with a total of 653 toddlers.

Samples

According to Nototatmodjo (2012) the sample is a portion of the population that is considered representative. Sample size was obtained 87.

### 3. RESULTS

#### Bivariate Analysis

##### a. Relationship between mother's education and the incidence of Stunting under five

**Table 1.** Relationship between mother's education and the incidence of stunting in children under five in Sanggeng Health Center and Wosi in Manokwari Regency, West Papua Province in 2018

No	Education	Stunting in children under five				n	%
		Stunting		Normal			
		n	%	n	%		
1	Low	10	32,3	21	67,7	31	100
2	High	12	21,4	44	78,6	56	100
Total		22	25,3	65	74,7	87	100

*p-value* = 0,392; RP = 1,502; CI95% (0,736 - 3,078)

Table 1 shows that of 31 low-educated mothers there were 10 people (32.3%) with stunting and 21 people (67.7%) normal. Of the 56 highly educated mothers, there were 12 people (21.4%) with stunting and 44 people (78.6%) normally. The results of the chi square statistical test on the significance value of 95% ( $\alpha = 0.05$ ) obtained *p-value* 0.392 or  $p > \alpha$  (0.05). This means that there is no significant relationship between the education of mothers and the incidence of stunting in children under five in Sanggeng Health Center and Wosi, Manokwari Regency, West Papua Province.

##### b. Relationship between mother's work and the incidence of Stunting under five

**Table 2.** Relationship between the work of mothers and the incidence of stunting in children under five in Sanggeng Health Center and Wosi in Manokwari Regency, West Papua Province in 2018

No	Occupation	Stunting in children under five				n	%
		Stunting		Normal			
		n	%	n	%		
1	Work	5	33,3	10	66,7	15	100
2	Not work	17	23,6	55	76,4	72	100
Total		22	25,3	65	74,7	87	100

*p-value* = 0,516; RP = 1,412; CI95% (0,617– 3,230)

Table 2 shows that of the 15 working mothers there were 5 people (33.3%) with stunting and 10 people (66.7%) normally.

Of the 72 mothers who did not work there were 17 people (23.6%) with stunting and 55 people (76.45%) Normal. The results of the Chi square statistical test on the significance value of 95% ( $\alpha = 0.05$ ) obtained *p-value* 0.516 or  $p > \alpha$  (0.05). This means that there is no meaningful relationship between the work of mothers and the incidence of stunting in children under five in Sanggeng Health Center and Wosi, Manokwari Regency, West Papua Province.

##### c. The relationship between the age of the mother giving birth and the incidence of Stunting under five

**Table 3.** Relationship between maternal age and incidence of stunting in children under five in Sanggeng Health Center and Wosi in Manokwari Regency, West Papua Province in 2018

No	Maternal age	Stunting in children under five				n	%
		Stunting		Normal			
		n	%	n	%		
1	< 20 and > 35 year	3	25	9	75	12	100
2	20 - 35 year	19	25,3	56	74,7	75	100
Total		22	25,3	65	74,7	87	100

*p-value* = 1,000; RP = 0,987; CI95% (0,344– 2,832)

Table 3 shows that out of 12 mothers aged <20 and> 35 years there were 3 people (25%) with stunting and 9 people (75%) normally. Of the 75 mothers over the age of 20-35 years there were 19 people (25.3%) with stunting and 56 people (74.7%) with normal nutritional status. The results of the chi square statistical test on the significance value of 95% ( $\alpha = 0.05$ ) obtained *p-value* 0.987 or  $p > \alpha$  (0.05). This means that there is no significant relationship with the incidence of stunting in children under five in Sanggeng Health Center and Wosi in Manokwari Regency, West Papua Province.

##### d. Relationship between ethnic groups with the incidence of Stunting under five

**Table 4.** Relationship between Tribes and the incidence of stunting in children under five in Sanggeng Health Center and Wosi in Manokwari Regency, West Papua Province in 2018

No	Tribes	Stunting in children under five				n	%
		Stunting		Normal			
		n	%	n	%		
1	Papua	19	39,6	29	60,4	48	100
2	Non Papua	3	7,7	36	92,3	39	100
Total		22	25,3	65	74,7	87	100

*p-value* = 0,002; RP = 5,146; CI95% (1,642– 16,122)

Table 4 shows that of 48 Papuan mothers there were 19 people (39.6%) with stunting and 29 people (60.4%) normal. Of the 39 mothers from Non Papuan tribes there were 3 people (7.7%) with stunting and 36 people (92.3%) normal. The results of the chi square statistical test on the significance value of 95% ( $\alpha = 0.05$ ) obtained p-value 0.002 or  $p < \alpha$  (0.05). This means that there is a significant relationship between the tribes of mothers with the incidence of stunting in children under five in the Sanggeng Health Center and Wosi in Manokwari Regency, West Papua Province. Prevalence ratio test results (RP) = 5,146; CI95% (1,642-16,122) interpreted by women from the Papuan tribe had the opportunity to experience stunting 5,146 times compared to mothers from non-Papuan tribes.

**e. Revenue Relationship Families of mothers with Stunting toddlers**

**Table 5.** Relationship between family income and the incidence of stunting in children under five in Sanggeng Health Center and Wosi in Manokwari Regency, West Papua Province in 2018

No	Family income	Stunting in children under five				n	%
		Stunting		Normal			
		n	%	n	%		
1	Low	13	37,1	22	62,9	35	100
2	High	9	17,3	43	82,7	52	100
Total		22	25,3	65	74,7	87	100

*p-value* = 0,066; RP = 2,146; CI95% (1,030 – 4,471)

Table 5 shows that of 35 mothers with low family income there were 13 people (37.1%) with stunting and 22 people (62.9%) normal. Of the 52 mothers with high family income there were 9 people (17.3%) with stunting and 43 people (82.7%) normal. The results of the chi square statistical test on the significance value of 95% ( $\alpha = 0.05$ ) obtained p-value 0.066 or  $p > \alpha$  (0.05). This means that there is no relationship, but it means the family income of mothers with the incidence of stunting in children under five in the Sanggeng Health Center and Wosi in Manokwari Regency, West Papua Province, seen from the results of the prevalence ratio test of 2,146; CI95% (1,030 - 4,471) which is interpreted that mothers with low family

income have the chance to experience stunting 2,146 times compared to high family income.

**f. Relationship between mother's nutritional knowledge and the incidence of Stunting under five**

**Table 6.** Relationship between maternal nutrition knowledge and the incidence of stunting in children under five in Sanggeng Health Center and Wosi in Manokwari Regency, West Papua Province in 2018

No	Knowledge	Stunting in children under five				n	%
		Stunting		Normal			
		n	%	n	%		
1	Less	14	87,5	2	12,5	16	100
2	Good	8	11,3	63	88,7	71	100
Total		22	25,3	65	74,7	87	100

*p-value* = 0,000; RP = 7,766; CI95% (3,940 – 15,306)

Table 6 shows that from 16 mothers with less knowledge there were 14 people (87.5%) with stunting and 2 people (12.5%) normal. Of 71 mothers with good knowledge there were 8 people (11.3%) with stunting and 63 people (88.7%) normal. The results of the chi square statistical test on the significance value of 95% ( $\alpha = 0.05$ ) obtained p-value 0,000 or  $p < \alpha$  (0.05). This means that there is a relationship between the knowledge of mothers and the incidence of stunting in children under five in Sanggeng Health Center and Wosi, Manokwari Regency, West Papua Province. Results of the prevalence ratio (RP) 7,766; CI95% (3,940 - 15,306) interpreted that knowledgeable mothers were less likely to have stunted children 5,143 times compared to well-informed mothers.

**4. DISCUSSION**

**4.1. Relationship between mother's education and the incidence of Stunting under five**

The results showed that there was a relationship but not significant education of mothers with the incidence of stunting in children under five in the Sanggeng Health Center and Wosi Manokwari Regency, West Papua Province. Low educated mothers 32.3% with stunting while mothers with high education were 21.4% with stunting. This proportion is not much different and

has the same opportunities as the incidence of stunting in infants. This research is in line with the research conducted by Windari (2015), that education is not related to the incidence of stunting in infants.

Education is the process of changing attitudes and behavior of a person or group of people in an effort to mature people through teaching and training efforts (Prayoto, 2014). In this study it was found that education was not related to the incidence of stunting in children under five because education was influenced by other factors, namely knowledge. Higher education influences a person's ability to perceive or think, this depends on the source of information obtained by the mother and not always the highly educated mother has good knowledge, because formal education in this case increases the ability to think, so that if the mother is not exposed to information about good care for toddlers causes a lack of knowledge of mothers about nutrition care in providing nutrition to their toddler children

According to Sulistyaningsih (2011), that information supports mother's knowledge in acting, the higher the information exposure she gets, the higher her knowledge. The low level of education is closely related to the inactivity of mothers who have toddlers to provide nutritional intake of food. The low level of maternal education affects the acceptance of information so that knowledge about nutrition is hampered or limited (Suhardjo, 2009). The level of maternal education is one indicator for knowing the level of knowledge of maternal nutrition. The higher the mother's education it is easier for mothers to understand information about nutrition the child is the role of the mother in fulfilling the quality and quantity of intake nutrition can be increased so that the growth and development of children especially to be more optimal, so that health workers can provide counseling or health education to mothers. Thus, mothers with low education can find out good care or

parenting in improving the nutritional status of children to prevent stunting.

#### **4.2. Relationship to the work of mothers with the occurrence of Stunting toddlers**

The results showed that there was a relationship but not significant work of mothers with the incidence of stunting in children under five in Sanggeng Health Center and Wosi Manokwari Regency, West Papua Province. 33.3% of working children were stunted, while 23.6% of mothers who did not work were stunted. Illahi (2017) reveals from the results of his research that work is not related to the incidence of stunting. The Fikadu study (2014) in South Euthopia showed that toddlers living with 5 to 7 family members had a risk of 2.97 times greater stunting than toddlers who lived with 2 to 4 family members. This is caused by a lack of food availability if many people live in one house.

Septiana (2010) that mothers who act as housewives usually have a parenting style for toddler growth that is better than mothers who have jobs outside the home, mothers can be more focused in raising children. However, in this study the absence of a relationship between the work of mothers in Manokwari Regency was caused by other factors that were more strongly related to the incidence of stunting in children under five years related to the work of mothers. Working mothers interact more with many people, making it easy to obtain useful information in caring for their toddler children. While working mothers and the many activities they experience have an impact on the care of their children.

According to Mubarak (2011), mothers who work further increase their knowledge, because they interact more with others who increase their knowledge. The absence of employment relations for under-fives stunting is due to mothers who do not work but have good financial ability and nutritional knowledge in presenting balanced nutritious food intake to their toddler children. On the other hand, working mothers who have experience and financial additions can fulfill the nutrition intake of

their toddler children. In addition, working mothers tend to entrust or care for their children and their caregivers who are hired because of their financial capacity. However, it was also found that toddlers who had stunting were expected to prevent stunting by providing nutrition for their children.

#### **4.3. Relationship between the age of mother giving birth and the incidence of Stunting under five**

The results showed that there was a relationship but not significantly the age of the mother giving birth with the incidence of stunting in children under five in the Sanggeng Health Center and Wosi Manokwari Regency, West Papua Province. At the age of mothers giving birth in the risk category (<20 years and > 35 years) it was found that 25% experienced stunting, whereas for mothers who gave birth age 20-35 years, there were 25.3% of children under five with stunting. This shows that at the age of mothers who are at risk of giving birth and not at risk have the same opportunities as the incidence of stunting in infants.

Research conducted by Windari (2015) revealed that there was no relationship between the age of mothers who gave birth and the incidence of LBW. According to Prawihardjo (2012) LBW can be caused by maternal factors, fetal factors and placental factors. Of these three factors, maternal factors are the most easily identified causative factors. Maternal factors associated with LBW include maternal age in pregnancy and childbirth (<20 years and > 35 years) at risk of having a low birth weight.

The absence of a meaningful age relationship with childbirth with the incidence of stunting in infants due to nutritional status in children can be prevented by fulfilling a balanced nutritional intake during pregnancy and good pregnancy care. Babies born with good parenting by their parents in providing nutrition for their children can prevent the occurrence of stunting. In addition, the

absence of age factors with the incidence of stunting in infants is explained by the results of Nashikah (2012) study that genetics is a risk factor for stunting in children under five, namely maternal height and father's height. This is supported by the theory put forward by Supriasa (2012) which states that children with short parents, either one or both, are more at risk of growing shorter than children with high parents normal body.

#### **4.4. Relationship between tribes and the incidence of stunting of toddlers**

The results showed that there was a significant relationship between family income of mothers and the incidence of stunting in children under five in Sanggeng Health Center and Wosi, Manokwari Regency, West Papua Province. Mothers from the Papuan tribe were 39.6% with stunting, while of the 39 mothers were from the Non Papuans 7.7% were stunting and 36 (92.3%) were normal. This shows that mothers of Papuan origin have higher stunting and the results of the prevalence ratio test obtained 5.146 times the child has stunting compared to mothers from non-Papuan tribes.

In general, people in Papua still place sago and sweet potatoes as the main choices of staple food for the Papuan people. Anthropologists, view eating habits as a whole complex of kitchen-related activities, hobbies, and dislike of a type of food, popular proverbs, beliefs, prohibitions and superstitions related to production, preparation of food processing and consumption of food as main categories of culture (Mapandin, 2006). According to Kristianto (2013), the culture of feeding children under five occurs because mothers and families have beliefs that are based on cultural aspects, so the mother decides to provide food in accordance with the cultural conditions.

The results of the study are in line with Khomsan's research (2006), that there is a eating culture influenced by the tribe in the family by giving food in the family. Poor family eating habits including dietary

restrictions that are actually very good for body needs or nutrition are not given because they are affected by eating habits that are influenced by socio-culture. For example, the mother's edge in giving fish to children that can cause intestinal worms and eat turtles and crocodiles can make bones brittle.

Researchers assume that tribal factors influence eating habits in society, households and individuals include what is thought, known and felt to be people's perceptions of food and what is done, people practice food. Eating habits are also influenced by the environment (ecology, population, economy) and the availability of food ingredients. The pattern of eating consumption that is influenced by eating habits has a close relationship with nutritional status. Therefore, an understanding of the fulfillment of balanced nutritional intake through counseling at the Puskesmas and Posyandu is further enhanced.

#### **4.5. Relationship between family income and the incidence of under-five stunting**

Family income from 87 respondents as many as 52 respondents or 59.8% of respondents had high family income and 40.2% of respondents with low family income. High income above Rp. 3,000,000 is enough to meet family food needs. From the results of the statistical test, there was no relationship between family income and the incidence of stunting in infants.

Income in low families found 37.1% had stunting and high family income found 17.3% of children under five were stunting. From the results of the prevalence ratio test (RP = 1,564) even though it shows family income risk for stunting events, it is not meaningful because high income cannot meet family nutrition intake due to low family knowledge in spending money to meet balanced or diverse nutritional intake in children the child. The Nasikhah study (2012) shows that the level of income per capita shown in expenditure is a risk factor for stunting in infants in East Semarang

with a risk of 7.21. Similar research also states that low family food expenditure has a risk of 6.353 times greater stunting than families with high expenditure (Annisa, 2012).

The absence of a family income relationship is due to the knowledge of mothers in spending on family food needs. Expenditures are high, but fewer food expenditures run the risk of food availability in the family. The greater the expenditure of food in the household indicates the lower the food security of the household.

It is agreed according to Berg (2010) that the increase in expenditure for consumption is not always followed by an improvement in the pattern of food consumption. Although a person tends to spend a large part of his income on consumption, it is not necessarily reflected that what is eaten is good in nutritional quality. In addition, the family's ability to buy food is not only influenced by the amount of income but the price of food. Some of the prices of expensive food items tend not to be selected and bought, so in the family these types of foods are rarely served so that in meeting nutritional needs there is still less.

#### **4.6. Relationship between maternal nutrition knowledge and the incidence of Stunting under five**

Knowledge of maternal nutrition in Manokwari District 81.6% of respondents in the good category and 18.4% in the less category. The level of maternal education also determines the ease of the mother in absorbing and understanding the knowledge of nutrition obtained. This can be used as a basis for distinguishing the right extension methods. From the interests of family nutrition, education is needed so that someone, especially mothers, is more responsive to the existence of nutritional problems in the family and can take action as soon as possible.

The results showed that there was a relationship between knowledge of mothers and the incidence of stunting in children under five in the Sanggeng Health Center

and Wosi, Manokwari Regency, West Papua Province. 88.7% of mothers who have good knowledge have toddlers with normal nutritional status while in mothers who have lack of nutrition knowledge 87.5% of their children experience stunting. The knowledge of mothers who were less than 7,766 times their children was stagnant compared to high-knowledge mothers.

High maternal knowledge is able to provide balanced nutrition for families and children. Higher maternal knowledge is more likely to be found in highly educated mothers than those with low education. Knowledge of good maternal nutrition is not always the child experiences optimal growth, where knowledgeable mothers are good 11.3% of their children experience stunting. In line with the research of Kusumayanti (2016), that good knowledge if not supported by the attitude and level of the family economy has an impact on the growth and development of children.

According to Arisman (2011), that factors that affect nutritional status in infants are also influenced by disruption of the process of providing nutrition due to low levels of education which results in a lack of knowledge of mothers, lack of support from family and environment (Arisman, 2010), because knowledge according to Notoatmodjo (2012), is a result of knowing and this happens after someone has sensed a certain object. Knowledge is a very important domain for the formation of one's behavior. Most of the mothers studied came from the origin of the local area who had staple food and how to provide interesting and varied food for the children from the local community compared to the way of processing food originating from non-Papuans. Based on these problems, health workers can provide information by collaborating with nutrition cadres at the posyandu in increasing coverage of nutrition conscious families by providing periodic guidance and counseling at the posyandu with information on how to process, how to cook by using cooking demonstrations for mothers at the posyandu. .

## 5. CONCLUSIONS

Based on the results of the discussion it can be concluded as follows:

1. There was no meaningful relationship between the education of mothers and the incidence of stunting in children under five in the Sanggeng Health Center and Wosi in Manokwari District, West Papua Province (p-value 0.392; RP = 1,502; CI95% (0.736 - 3,078).
2. There is no significant relationship between the work of mothers and the incidence of stunting in children under five in Sanggeng Health Center and Wosi Manokwari Regency, West Papua Province (p-value = 0.516; RP = 1.412; CI95% (0.617–3.230).
3. There is no significant relationship of age with the incidence of stunting in children under five in Sanggeng Health Center and Wosi Manokwari District, West Papua Province (p-value = 1,000; RP = 0.987; CI95% (0.344– 2,832).
4. There is a significant relationship between the tribe and the incidence of stunting in children under five in Sanggeng Health Center and Wosi in Manokwari Regency, West Papua Province (p-value = 0.002; Rp = 5.146; CI95% (1,642-16,122).
5. There is no relationship but significant family income of mothers with the incidence of stunting in children under five in the Sanggeng Health Center and Wosi in Manokwari Regency, West Papua Province (p-value = 0.066; RP = 2.146; CI95% (1,030 - 4,471).
6. There is a relationship between the knowledge of mothers and the incidence of stunting in children under five in Sanggeng Health Center and Wosi Manokwari Regency, West Papua Province (p-value = 0,000; Rp. 7,766; CI95% (3,940-15,306)

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