



## INTERVENTION “TAMAN PEMULIHAN GISI” TO PROVIDE WASTING CHILDREN WITH ADDITIONAL FOOD TO PREVENT STUNTING

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### ABSTRACT

Stunting is a trending health problem in society, to overcome this there is one government policy, namely the Taman Pemulihan Gisi (TPG) activity which is useful for improving the nutritional status of toddlers. Research objectives: To determine the effect of supplementary feeding through TPG on the nutritional status of wasting children Pre-experimental research design (one-group pre-posttest design), Population: all 20 toddlers experiencing wasting in 2023 with total sampling technique. Independent Variable: Supplemental feeding. Dependent variable: change in body weight with an instrument measuring body weight using scales before and after giving additional food for 14 days, and health status (sick/ever been sick) using a questionnaire during the intervention. Data analysis using uji sperman rank. Research results Most (62.5%) aged 3-4 years with increased weight. with  $p=0.000$  there is an effect of food provision on changes in body weight based on age group. The majority (77.8%) were men who experienced weight gain. with  $p=0.001$  there is an effect of feeding on body weight based on gender. The majority (72.7%) changed weight and experienced illness when given additional food at TPG  $p=0.027$ , there was an influence of additional feeding on changes in weight based on whether the child had been sick. Providing additional food to children that meets the quality and quantity of food will have a direct impact on changes in body weight. In TPG activities carried out with cadres, health workers and mothers of toddlers for 14 days, there is health education to prepare menus of various types, cooking methods, determining the content and appearance of food so that children increase their appetite for the maintenance and repair of body cells and life processes. Children and mothers, cadres and health workers gather in TPG activities every day to carry out weight checks, health status checks and education for mothers on how to prepare menus for children. There was an increase in weight in children who received additional food in TPG activities. There was an increase in weight in children who received additional food in TPG activities. Good cooperation between mothers, cadres and health workers during the implementation of supplementary feeding through TPG is the key to success in increasing changes in the nutritional status of wasting children.

Keywords: nutritional status; taman pemulihan gisi (TPG); wasting

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### INTRODUCTION

Nutrients are a very important component needed by children under five to achieve optimal growth and development during the child's developmental period, especially brain growth and development. Brain cells are the main foundation for the intelligence of every toddler, therefore food is needed that contains good nutrients. (Susiningsih, 2008). Children in every country, particularly toddlers, experience nutritional problems. The United Nations Children's Fund (UNICEF) and the World Health Organization (WHO) mention there are three nutritional problems in children under five years old. Malnutrition is the most critical global

problem, causing over 2 million deaths in children under five worldwide (WHO, 2018). Good and healthy nutrition during childhood is an important foundation for their future health.

Nutritional problems are prevalent among children, especially under-fives. Stunting occurs when a person's height is below average for age and sex. Nutritional problems are diagnosed by comparing height-per-age Z scores from global growth charts (Candra, 2020). According to data from the Indonesian Nutrition Status Survey (SSGI) 2022, nutritional deficiencies are the leading nutritional problem for children at an early age, both children under 2 years of age (Baduta) and children under 5 years of age (Toddlers). The following are the nutritional problems experienced by toddlers according to the results of the Indonesian Nutrition Status Study (SSGI) 2022.

Table 1.  
presents the Nutrition Problems of SSGI 2022.

nutritional problems	Prosentase
Stunting	21.6
Underweight	17.1
Wasting	7.7
overweight	3.5

Stunting is a health trend in children that occurs in the community. In order to overcome stunting in the community, especially within the scope of a village or *kelurahan*, village officials consisting of village government employees assisted by village midwives and supervised by the local puskesmas make several policies. One of these policies is the Nutrition Recovery Park (TPG). The implementation of the TPG program is also very helpful for mothers in improving the nutritional status of toddlers. In TPG, mothers will better understand the nutritional needs of children and how to process food properly and correctly so that it can be applied in daily life, which indirectly means the mother's actions will continue the TPG program at home so that the nutritional needs of toddlers will be met, which will have an impact on improving the nutritional status of toddlers. With the existence of various kinds of nutritional problems, the government itself has made various efforts. One of the efforts made by the Jombang District Government in 2009 to overcome these nutritional problems was to establish a Nutrition Recovery Park (TPG). In the nutrition recovery park, mothers with children under the age of five are given training and guidance on the optimal nutritional, nutritional, and energy needs of a child. Because it will be directly related to the growth and development of the child. This nutrition recovery park is also equipped with educational games that can provide a comfortable and safe atmosphere for children, which is carried out for 14 days.

The Nutrition Recovery Park (TPG) is an innovation program as a breakthrough effort by the Jombang Regency Government and the community in overcoming nutrition problems,<sup>9</sup> where the TPG is a program that is identical to the community-based Nutrition Recovery Post (Community Feeding Center). /CFC) by applying the Positive Deviance (PD) approach. In TPG activities to change the behavior of mothers in providing healthy food menus to their toddlers using the demonstration method. Demonstration is a way to show understanding, ideas and procedures for everything that has been carefully prepared by paying attention to how to carry out an action using props, this method is used with groups that are not too large. (Sumirah, 2022). Stunting is a health trend in children that occurs in the community. In order to overcome stunting in the community, especially within the scope of a village or *kelurahan*, village officials consisting of village government employees assisted by village midwives and

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The park is also equipped with educational games that can provide a comfortable and safe atmosphere for children. TPG is an activity from the community, by the community, and with the community to overcome nutritional problems found with the active participation of mothers of toddlers accompanied by mother cadres and as a vehicle for the application of positive behavior, education, and play for toddlers (Ratnawati, 2017). The objectives of TPG are 1) to produce findings that can be used as guidelines in developing theories about nutritional recovery in malnourished children. 2) For children, it can improve growth and development. 3) For health workers to gain technical knowledge of efforts to improve nutrition through TPG. 4) For health service agencies as input and consideration in policy making related to the implementation of programs to improve the growth and development status of children. TPG targets include malnourished and undernourished children without complications from poor and non-poor families. Implementation Time TPG is conducted for 14 days. The aim of the research is to determine the effect of supplementary feeding through TPG on the nutritional status of wasting children in Dukuh Klopo village, Peterongan subdistrict, Jombang district.

## METHOD

Pre-experimental research design (one-group pre-posttest design), Population: all toddlers who experience wasting as many as 20 toddlers in 2023 with total sampling technique. Independent Variable: Supplementary feeding for wasting children through TPG activities for 14 days. Dependent variable: weight change and health status (sickness/ever sick during supplementary feeding). We collect data through observation and questionnaires, and we use scales to measure weight. Data analysis using sperman rank test.

## RESULTS

The identity of the child follows the TPG.

Table 1.  
Age groups participating in TPG activities

Old	f	%
1- < 2 Yeaars	3	15
< 3 Years	9	45
amount	20	100

Table 1 shows that most (85%) were more than 2 years old who attended TPG for 14 days.

Table 2.  
Based on gender, who participated in TPG activities

gender	f	%
Male	9	45
Female	11	55
amount	20	100

Table 2 shows that more than half (55%) were female who participated in the TPG for 14 days.

Table 3.  
Weighing results and health status on days 1 and 14 of TPG activities

BB pre	BB pos	Ket	Health
12	12	Stay	minor illness
9.6	9.7	up 0.1	minor illness
9	9.1	up 0.1	minor illness
9.7	9.7	stay	never
11.8	12.7	up 0.5	never
9.3	9.3	stay	never
6.1	6.2	up 0.1	minor illness
9.1	9.1	stay	never
10.7	11.1	up 0.5	never
10.2	10.5	up 0.3	minor illness
10.4	10.8	up 0.4	never
9.2	9.2	stay	never
11	11	stay	minor illness
8.7	9	up 1.3	never
9.8	10	up 1.2	never
9	9.2	up 0.2	minor illness
13	13	stay	minor illness
11.6	11.6	stay	never
11.1	11.1	stay	never
11	11.2	up 0.2	never

Based on table 3, it shows that more than half (55%) had a change in body weight after being given additional food following TPG for 14 days and most (60%) had been sick when given additional food in TPG activities for 14 days.

## Analysis result

Table 4.

Cross tabulation between age and weight change after supplementary feeding

old/BB	stay	up	amount
1- <2 years	2(66.7%)	1(33.3%)	3 (100%)
2-< 3 years	4(44.4%)	5 (45,6%)	9 (100%)
3-4 years	3(37.5%)	5 (62.5%)	8 (100%)
amount	9 (45%)	11(55%)	20(100%)

Based on table 4 shows that most (62.5%) 5 out of 8 respondents in the age group 3-4 years with sedentary weight. Based on the sperman rank test with  $\alpha = 0.05$  with  $p = 0.000$  there is an effect of supplementary feeding on changes in body weight based on age group.

Table 5.

Cross tabulation between gender and weight change after giving additional food

gender /BB	stay	up	amount
male	2(22.2%)	7 (77.8%)	9 (100%)
female	6(54.5%)	5(45,5%)	11(100%)
amount	8 (40%)	12(60%)	20 (100%)

Based on table 5 shows that most (77.8%) 7 out of 9 respondents were male who experienced an increase in body weight. Based on the sperman rank test with  $\alpha = 0.05$  with  $p = 0.001$  there is an effect of supplementary feeding on body weight based on gender.

Table 6.

Cross tabulation between weight change and incidence of illness during supplementary feeding

BB/sick	sick	painless	amount
stay	4(44.4%)	5(55.6%)	9 (100%)
changed	8 (72.7%)	3 (27.3%)	11 (100%)
amount	12 (60%)	8(40%)	20(100%)

Based on table 6 shows that most (72.7%) 8 out of 11 respondents with changes in BW changed and experienced pain when given additional food in TPG. Based on the sperman rank test with  $\alpha = 0.05$  with  $p = 0.027$  there is an effect of supplementary feeding with changes in body weight with pain.

## DISCUSSION

### The effect of supplementary feeding on changes in body weight of wasting children through TPG activities

Based on table 3 more than half (55%) there was a change in body weight after being given additional food that followed the TPG for 14 days. The implementation of the TPG program is very helpful for mothers in improving the nutritional status of toddlers, in TPG mothers will better understand the nutritional needs of children, and how to process food properly and correctly, so that it can be applied in daily life, which indirectly the mother's actions will continue the TPG program at home so that the nutritional needs of toddlers will be met, which will have an impact on improving the nutritional status of toddlers. With the existence of various kinds of nutritional problems, the government itself has made various efforts. One of the efforts made by the Jombang District Government in 2022-2023 to overcome nutritional problems is the existence of TPG, which provides budget assistance for the implementation of

TPG. In the nutrition recovery park, mothers of children under the age of five who are wasting are given training and guidance on the optimal nutritional, nutritional and energy needs of a child. This is because it is directly related to the growth and development of the child. The nutrition recovery park is also equipped with educational games that can provide a comfortable and safe atmosphere for children to stimulate gross motor, fine motor, socialization, and language development. Mothers and cadres together with health workers determine the food menu and cook together for 14 days, children can eat together with friends which can increase appetite. Furthermore, mothers will learn to determine the menu for their children so that they want to eat and stunting does not occur.

Children who are growing and developing need food intake that must be considered for quality and quantity. Quality is determined based on the nutrient content: carbohydrates, protein fat, vitamins and minerals. Quantity is the amount of food intake needed by the body according to the age and type of child. Table 1 shows that most (85%) were more than 2 years old who participated in TPG for 12 days. In the group of children aged 2 years is a group of toddler age children in the outonomy phase, meaning that children are proud to be able to carry out independent activities (walking, running, eating, bathing, wearing their own clothes) which require increased energy derived from food sources that children eat.

**Table 2 shows that more than half (45%) were males who participated in TPG for 12 days**

Male children have more gross motor activities (running, walking, riding a bicycle, climbing, kicking) which require more energy from the various foods eaten by the child. In female children, there are fewer activities that require less energy (role-playing: dolls, children). To fulfill these quality and quantity aspects, we now recognize the concept of Diverse, Nutritious, Balanced, and Safe Food (B2SA), meaning that every meal consumed must be diverse in commodities, have good nutritional value for the health of the body, be balanced in accordance with the needs of the body, and be safe from contaminants that have the potential to interfere with health status. Diverse foods are foods that are consumed diversely both between food groups (staple foods, side dishes, vegetables, and fruits) and within each food group. Examples of each type of food from various food groups are as follows:

1. Staple foods include rice, potatoes, cassava, sweet potatoes, corn, taro, sago, and breadfruit. Staple foods are a source of carbohydrates. The main function of carbohydrates is the body's energy source. When consuming foods that contain carbohydrates, the body will digest and convert them into glucose. With the help of the hormone insulin, glucose will be absorbed by the body's cells. From this process, the body will obtain energy so that it can carry out various activities, such as breathing, moving, walking, and thinking, running, playing, and playing.
2. Side dishes include fish, eggs, poultry, meat, milk, and beans and their processed products (tofu and tempeh). Side dishes are a source of protein and fat. Protein is an important building block in the human life cycle. Protein is used as a body-building substance to replace damaged body cells, reproduction, digesting food, and the continuity of normal processes in the body. Protein has several functions, namely forming tissues during growth and development, maintaining body tissues, and repairing and replacing damaged or dead tissues. The function of fat is as a body protector, solvent of fat-soluble vitamins (vitamins A, D, E, and K), vitamin and hormone building blocks, and the most energy-producing source.
3. Vegetables are green vegetables and other colored vegetables, including spinach, broccoli, mustard greens, carrots, bean sprouts, cucumbers, papaya leaves, cassava

leaves, tomatoes, etc., which are abundant around where the mother lives and are easily accessible at affordable prices.

4. Fruits are colored fruits, including oranges, bananas, papaya, melon, watermelon, avocado, star fruit, etc. Vegetables and fruits are sources of vitamins and minerals. The functions of vitamins and minerals include producing new cells, accelerating wound healing, improving the immune system, building and strengthening bones, providing antioxidants or antidotes to bad compounds in the body, and maintaining the body's metabolism.

Based on the sperman rank test to see the effect of supplementary feeding with  $\alpha = 0.05$  with the results of  $\rho = 0.000$  which means there is an effect of supplementary feeding on weight change based on age group and  $\rho = 0.001$  based on gender, which means there is an effect of supplementary feeding on weight change in the gender group. Supplementary feeding in children that meets the quality and quantity of food will have a direct impact on changes in body weight that can be directly monitored after supplementary feeding. Food needs in children vary according to health status, activity patterns, age, gender, and growth rate. The greater the child's growth rate, the greater the child's food requirements according to the age group. Assessing growth patterns regarding dietary requirements can be made based on the age of the child, although children's growth patterns are individualized. Providing a variety of foods to children is necessary because children require different nutrients. In addition to improper practices in feeding, community habits are also very influential. The things that must be considered in feeding children include the age of the child, the frequency of feeding in a day, the amount of food or portion for one meal, food texture, food variety, giving food actively or responsively to children and always maintaining cleanliness.

### **The effect of supplementary feeding on the health status of wasting children through TPG activities**

Table 3 shows that most (60%) had been sick when given additional food in TPG activities for 12 days. Table 4 shows that most (66.7%) 6 out of 9 respondents in the 2-3 year age group experienced illness. Based on the sperman rank test with  $\alpha = 0.05$  with the result of  $\rho = 0.027$  there is an effect of additional feeding on the incidence of illness in the age group. Based on table 6 shows that most (72.7%) 8 out of 11 respondents with weight change experienced illness when given additional food in TPG. Based on the sperman rank test with  $\alpha = 0.05$  with  $\rho = 0.027$  there is an effect of supplementary feeding with changes in weight with illness. The condition of mild illness that occurs in children when given additional food through TPG activities does not really affect changes in appetite in children; the result is a cough, runny nose, and fever, which on average heals on days 3–5, and after there are no symptoms, the child will experience a good appetite like before the illness. When children experience complaints, there is a decrease in their appetite. In the implementation of TPG in feeding a variety of types and forms that increase appetite, children are interested in a variety of diverse foods and eating together with their friends makes a child will increase his appetite. In TPG activities carried out together with health cadres, health workers, and mothers of toddlers who experience wasting for 14 days, there is health education provided by officers.

Arranging a menu that varies in the type of food, cooking, content, and appearance is made as attractive as possible to increase children's appetite. Every day the menu is made different by taking into account the local wisdom and purchasing power of the community in the village of Dukuh Klop Peterongan Jombang. Every child needs food as a source of energy for activity. The food consumed greatly affects the physiological condition of the body. Therefore, food intake must be considered in terms of quality and quantity. Quality is determined based on the

nutritional content of food commodities, which contain various nutritional values needed by the body, such as carbohydrates, protein, fat, vitamins, and minerals. Then quantity is the amount of food intake required by the body according to age and gender. To fulfill the quality and quantity aspects, we now recognize the concept of Diverse, Nutritious, Balanced, and Safe Food (B2SA), meaning that every meal consumed must be diverse in commodities, have good nutritional value for the body's health, be balanced, which is in accordance with the body's needs, and be safe from contaminants that have the potential to interfere with health. In TPG activities in the preparation of menus, paying attention to balanced nutrition is a composition of daily food dishes consisting of a variety of quality foodstuffs in quantities and proportions that are in accordance with physical activity, age, gender, and physiological conditions of the body so as to meet one's nutritional needs for the maintenance and repair of body cells and life processes as well as optimal growth and development. Supplementary food is also provided to children who take part in TPG in the form of safe and quality snacks along with other supporting activities by paying attention to aspects of food quality and safety. and contains nutritional values that are in accordance with the target needs. Supplementary food is given once a day for 14 consecutive days.

The form of supplementary food is given porridge, mung bean porridge, and catfish soup. Because in the village of Dukuh Kelop there are many people who raise catfish. In addition to making soup with catfish, it is made into rounds like meatballs that make children happy by adding wheat flour without any flavoring ingredients. A lot of fish, tilapia, catfish, chicken eggs, quail eggs, are made into naget and a lot of vegetables around long beans, cassava leaves, katuk leaves, papaya leaves, mustard greens, etc. are planted around the houses of the villagers of Dukuh Klop village, which can be utilized by the community and close to the market, which provides a variety of cooking ingredients that can be used in compiling food menus, food form In line with the results of research conducted in the activities of providing Modified PMT, it shows that in 11 toddlers before being given the intervention, all (100%) were undernourished, 8 people were stunted, and 3 people were stunted. With an average body weight of  $8.438 \text{ kg} \pm 1.1451$  We argue that the occurrence of undernutrition and stunting in toddlers in Bukit Tingki village is due to a lack of food intake containing nutrients that meet the needs of toddlers for the growth and development of children under five. The lack of nutritious food intake is likely due to a lack of understanding of parents about the importance of nutritious food intake and an economic level that is not so sufficient to buy food ingredients that contain high nutrition for consumption by children under five.

## **CONCLUSION**

There was an increase in the body weight of wasting children who were given additional food in activities that were observed before and after giving additional food for 14 days in TPG. In TPG activities carried out for 14 days, it increases the knowledge and attitude of mothers in preparing food menus for wasting children that can increase appetite by providing diverse and nutritionally balanced foods.

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