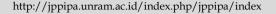


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# The Effect of Providing Supplementary Food Made from Local Foods on the Nutritional Status of Stunted Toddlers

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**Abstract:** The aim of this research is to determine the effect of providing additional food made from local food on the nutritional status of stunted toddlers in Kedungbanteng District, Tegal Regency. This type of research is a quasi-experimental design with a one group pretest posttest design where the design does not have a control group. Research time is June - December 2022. The research was conducted in 5 villages in the Kedungbanteng Community Health Center area which are running the Rumah Pelita program in 2022. The research subjects were 116 stunted toddlers aged 6-59 months. The results of the study found that there was no difference between the Z score based on the Weight For Height (WHZ) index indicator before and after being given additional food made from local food for 90 days (p > 0.05), there was a difference between the Z score based on the Weight for Age index indicator (WAZ) before and after being given additional food made from local food for 90 days (p < 0.05) and there is a difference between the Z score based on the Height for Age (HAZ) index indicator before and after being given additional food made from local food for 90 days ( p < 0.05). Thus, it was concluded that providing additional food made from local food with a snack menu with a 4 star and modisco concept for 90 days had a significant influence on changes in nutritional status based on weight for age and height for age.

**Keywords:** Nutritional status; Providing additional food made from local food; Stunting; Supplementary Feeding.

# Introduction

Stunting or shortness of breath is a condition of failure to thrive in toddlers as a result of chronic malnutrition, especially in the first 1,000 days of life so that children are too short for their age (Kemenkes RI, 2018b). Stunting is currently a problem because it is associated with an increased risk of morbidity and death, as well as sub-optimal brain development so children's motor and mental development is hampered (Mitra, 2015).

Cases of malnutrition among toddlers are still a serious problem in Indonesia. The results of the 2018 Riskesdas show that 30.8% of Indonesian toddlers experience stunting (Kemenkes RI, 2018a). According to

the results of the Indonesian Nutritional Status Study (SSGI), in 2021 as many as 20.9% of toddlers under five years old in Central Java will experience stunting. This means that approximately 1 in 5 toddlers in Central Java experience stunting or growth disorders. Of the 34 districts/cities in Central Java, there are districts/cities with the proportion of stunted toddlers above the provincial figure. Meanwhile, 21 other districts/cities have a prevalence below the provincial figure. Wonosobo Regency is recorded as the region with the highest prevalence of stunting under five in Central Java, reaching 28.1%. Followed by Tegal Regency with 28%, and Brebes Regency with 26.3%. 6 Central Java is included in the Chronic Acute category (Stunting  $\geq 20\%$  and Wasted  $\geq 5\%$ ) (Kemenkes RI, 2021). In the 2020-2024 National Medium Term Development Plan (RPJMN) document, 'increasing the nutritional status of the community' is included as one of the development priorities, with the main target of reducing the prevalence of stunting and wasting to 14% and 7% respectively in 2024 (Kemenkes RI, 2020b).

The main cause of stunting in children is nutritional intake. Stunting can occur as a result of malnutrition, especially during the first 1000 days of life (Kemenkes RI, 2018c). Factors causing stunting are family and household, inadequate complementary feeding (MP-ASI), several problems in breastfeeding, infections, and endocrine disorders (Rahayu et al., 2018). Other factors that cause stunting include parental education and knowledge, parenting patterns, economics, food availability, demographics, and health services (Satriawan, 2018).

One way to prevent stunting is to provide adequate nutrition and health services to pregnant women. This effort is very necessary, considering that stunting will affect the child's intelligence level and health status as an adult. The consequences of malnutrition in the first 1000 days of birth are permanent and difficult to repair (Kemenkes RI, 2018c).

The government's efforts to overcome the stunting problem are carried out by efforts to improve community nutrition, one of which is through a program providing additional food to improve the nutritional status of children. Providing additional recovery food for toddlers is a nutrition program that aims to restore toddlers' nutrition by providing food with sufficient nutritional content so that toddlers' needs are met (Kemenkes RI, 2011).

According to the 2021 Indonesian Nutrition Status Study (SSGI) results, Tegal Regency is the second district with the highest stunting cases in Central Java. (Kemenkes RI, 2021) As one of the districts with the highest stunting cases in Central Java, stunting cases are still a problem faced by the local government that requires serious attention to handle them.

In the Tegal Regency, especially in Kedung Banteng District, there is already a program for handling stunting toddlers by providing additional food, namely the Toddler Nutrition Recovery House (Rumah Pelita) program. Rumah Pelita is an innovative activity to handle cases of toddlers lacking energy and protein, especially in handling stunting toddlers in the District, Kedungbanteng Tegal Regency. The supplementary food program for toddlers at Rumah Pelita is provided in the form of snacks from local food ingredients with a 4-star concept cooked by health cadres. The 4-star concept means that one food menu of four nutritional elements, carbohydrates, animal protein, vegetable protein, and vegetables. Every day Rumah Pelita's target is to get a

snack menu with a 4-star and modisco concept. Once a week, toddlers targeted by Rumah Pelita are given a complete rice menu to promote examples of balanced nutritious menus that can be given to toddlers every day. The additional food menu at Rumah Pelita is prepared by the Kedungbanteng Health Center Nutrition Officer (Erawati, 2021).

This activity of providing additional food made from local food at Rumah Pelita lasted for 3 months. Food distribution is given to targets every day for 3 months. This additional food activity made from local food from Rumah Pelita was initiated by the Kedungbanteng Community Health Center Nutrition Officer. The origin of Rumah Pelita in September 2020 in Tonggara Village. When it was first established, its name was the Nutrition Recovery Post. In 2022, activities to provide additional food made from local food from Rumah Pelita will be carried out in 9 other villages in Kedungbanteng District, Tegal Regency (Erawati, 2021). In 2022 Rumah Pelita's local additional food activities will be implemented in 5 villages in the Kedungbanteng District (Erawati, 2022).

The activity of providing additional food made from local food at Rumah Pelita has been running since 2020. Since the launch of the Rumah Pelita activity, there has never been an analysis of the effect of providing additional food made from local food from Rumah Pelita for 3 months on nutritional status. Research on the effect of providing additional food made from local food in the form of snacks given for 3 months to stunted toddlers has never been conducted by other researchers. Research on the effect of providing additional food made from local food on the nutritional status of stunted toddlers has also never been carried out in the Tegal Regency. Based on this, researchers want to know the effect of providing additional food made from local food on the nutritional status of stunted toddlers in the Toddler Nutrition Recovery House Program (Rumah Pelita) in Kedungbanteng District, Tegal Regency.

## Method

The research was conducted in 5 villages at the Kedungbanteng Community Health Center. The time used to conduct this research is June- December 2022. The research is quasi-experimental, with a one-group pre and post-test design. The data collection time for this research was cross-sectional. Cross Sectional is research in which collection and measurements are carried out at one time. The types of data collected include name, age, gender, weight, and height. The population taken were toddlers aged 6-59 months who took part in the Rumah Pelita supplementary feeding program in the Kedungbanteng Community Health Center Working

Area in 2022, totaling 116 toddlers. To accurately describe the variables studied, the researcher took the entire population as a sample. Therefore, sampling in this study used a saturated sampling method. Based on this sampling technique, the number of samples (n) obtained was 116 samples.

Secondary data was obtained through reviewing documents and reports related to the Rumah Pelita local supplementary feeding program in Kedungbanteng District, Tegal Regency, such as target data for toddlers, target weight and height data before and after the program, and others related to implementation.

The research design is drawn as follows: Intervention 3 months  $O_1$   $X_1$   $O_2$ 

 $\mbox{O}_1$  : Measurement of Z score BB/U, TB/U and BB/TB before PMT

x1 : Treatment of providing additional food made from local and fashionable food which is given once a day for 3 months O<sub>2</sub> : Measurement of Z score BB/U, Tb/U, and BB/TB after administering local PMT for 3 months

The descriptive analysis used is univariate analysis and bivariate analysis. Univariate analysis was used to describe the research variables. Research variables include the characteristics of the respondents (age, gender) and nutritional status before and after being given PMT for 90 days or 3 months (seen from the Z score with the weight index for age (Z score BB/U), Z score with the height index according to age (Z score TB/U) and Z score with weight index for height (Z score BB/TB)).

Bivariate analysis is an analysis using statistical tests on two variables that are thought to have an influence (Adiputra et al., 2021). The test to determine the difference in body weight and height before and after being given Local PMT for 3 months is the Paired T-Test if the data is normally distributed. (Adiputra et al., 2021) If the data is not normally distributed, use the Wilcoxon Sign Rank Test. (Wulo, 2004) Meanwhile, the data distribution test uses Kolmogorov Smirnov because the data is more than 30 (Santosa Insap Paulus, 2018).

# **Results and Discussion**

The activity of providing additional food made from local food at Rumah Pelita in Kedungbanteng District was provided for 3 months. Body weight measurements in the supplementary feeding program at Rumah Pelita, Kedungbanteng subdistrict, Tegal district, were carried out once a week from before the implementation of the program until the end of the

intervention. Meanwhile, height measurements were carried out once a month from before the program was implemented until the end of the intervention. The results of measuring the nutritional status of toddlers in this study were carried out twice, namely at the beginning before the intervention and after the end of the intervention, namely after 3 months of being given additional food.

The assessment of the nutritional status of toddlers is carried out based on the anthropometric index of weight according to height, weight according to age, and weight according to age using child anthropometric standards from the Ministry of Health of the Republic of Indonesia (Kemenkes RI, 2020a). The nutritional status of toddlers was assessed using the WHO Anthro application and categorized according to the nutritional status grouping limits based on the anthropometric index of body weight for height, weight for age, and height for age.

**Table 1.** Children's Description by Age

Age (months)	Frequency (f)	Precentase (%)	
6-11	0	0	
12-23	25	21	
24-35	32	28	
36-47	42	36	
48-59	17	15	
TOTAL	116	100	

Table 1 above shows that most of the subjects were aged 36-47 months (36%), and there were no subjects aged 6-11 months.

Table 2. Description of Children Based on Gender

Gender	Frequency	Precentase (%)
Female	58	50 %
Male	58	50 %
Total	116	100%

Table 2 shows that the number of subjects between men and women is the same, namely 58 children (50%) of the female gender and 58 male children (50%).

**Table 3**. Distribution of Nutritional Status based on the Z score calculation with the BW/TB Index in subjects before and after giving additional food made from local food for 3 months

Nutritional	Before PMT		A	After PMT	
Status BB/TB	n	%	n	%	
Index					
Malnutrition	3	2%	4	3%	
Lack of	10	9%	16	14%	
Nutrition					
Good Nutrition	94	81%	89	77%	
Overnutrition	7	6%	7	6%	
Obesity	2	2%	0	0%	
TOTAL	116	100%	116	100%	

Based on the results of anthropometric measurements based on the calculation of the Z score with the BW/TB index before providing additional food made from local food, it is known that the number of children under five with poor nutritional status is 3 children (2%), 10 children with malnutrition (9%), 94 children with good nutrition (81%).), overnutrition in 7 children (6%) and obesity in 2 children (2%). After providing additional food made from local food for 3 months, there was a change in anthropometric status based on the calculation of the Z score with the BW/TB index, namely 4 toddlers with poor nutritional status (3%), 16 toddlers with poor nutrition (14%), 89 toddlers with good nutrition (77%). %) and 7 children under five were overnourished (6%).

The table shows that there was an increase in the number of malnourished and malnourished children under five after being given additional local food for 3 months. Before being given local supplementary food for 3 months the number of malnourished toddlers was 3 children (2%) after being given local supplementary food for 3 months the number of malnourished toddlers increased by 1% to 4 children (3%). Before being given local supplementary food for 3 months the number of malnourished toddlers was 10 children (9%) after being given local supplementary food for 3 months the number of malnourished toddlers increased by 5% to 16 children (14%).

This research is in contrast to the research of Doren, et al in the city of Kupang which stated that from secondary data taken from the Oepoi Community Health Center, toddlers aged 6-59 months in the undernourished category who were given additional recovery food for 3 months, toddlers who experienced malnutrition were in January 2018 there were 28 people and the number of malnourished/under-five children decreased in December 2018 to 18 people (Doren et al., 2019).

Based on Table 3, there is a decrease in the number of well-nourished toddlers, over-nourished toddlers, and obese toddlers after being given supplementary food for 3 months. Before being given additional local food for 3 months there were 94 children (81%) with good nutrition, after being given additional local food for 3 months the number of children with good nutrition fell by 4% to 89 children (77%). Before being given additional local food for 3 months there were 7 children (6%) who were well-nourished, after being given additional local food for 3 months the number of over-nourished children remained the same, namely 7 children (6%). Before being given additional local food for 3 months there were 2 children (2%) who were obese toddlers, after being given additional local food for 3 months the number of obese toddlers fell by 2% to 0 children.

**Table 4.** Distribution of Nutritional Status based on Z Score Calculation with BW/U Index in subjects before and after giving additional food made from local food for 3 months

Nutritional	Before PMT		After PMT	
Status BB/U	n	%	n	%
Index				
<b>1</b> 7	2	2	4	2
Very	3	2	4	3
underweight				
Underweight	10	9	16	14
Normal weight	94	81	89	77
Risk of being	7	6	7	6
overweight				
Very	2	2	0	0
underweight				
TOTAL	116	100	116	100

results anthropometric Based on the of measurements based on the calculation of the Z score with the BB/U index before providing additional foodbased food for 3 months, it is known that the number of toddlers in the very underweight category is 26 children (22%), the number of toddlers in the underweight category is 50 children (43%), the number of toddlers in the normal weight category was 40 children (35%) and the number of toddlers in the risk category of being overweight was 0 children. After providing additional food made from local food for 3 months based on Table 4 above, it is known that the results of anthropometric measurements based on the BW/U index are that the number of toddlers in the very underweight category is 15 children (13%), the number of toddlers in the underweight category is 38 children (33 %0, the number of toddlers in the normal weight category is 63 children (54%) and the number of toddlers in the overweight risk category is 0 children.

Table 4 shows that there was a decrease in the number of very underweight toddlers and the number of underweight toddlers after being given additional local food for 3 months. Before being given local supplementary food for 3 months the number of toddlers in the very low weight category was 26 children (22%) after being given local supplementary food for 3 months the number of toddlers in the very low weight category fell by 9% to 15 children (13%). Before being given local supplementary food for 3 months the number of toddlers in the underweight category was 50 children (43%) after being given local supplementary food for 3 months the number of toddlers in the underweight category fell by 10% to 38 children (33%).

Based on Table 4, there is an increase in the number of toddlers with normal weight categories after being given additional local food for 3 months. Before being given local supplementary food for 3 months there were 40 children (35%) in the normal weight category. After

being given local supplementary food for 3 months the number of toddlers in the normal weight category increased to 19% to 63 children (54%).

**Table 5.** Distribution of Nutritional Status Calculation of Z scores based on the subject's TB/U Index before and after giving additional food made from local food for 3 months

TB/U Index	Before PMT		Aft	After PMT	
Nutritional	n	%	n	%	
Status					
Very short	75	65	23	20	
Short	41	35	49	42	
Normal	0	0	44	38	
Tall	0	0	0	0	
Total					

From Table 5 above, it is known that the results of anthropometric measurements based on the Z score measurement with the TB/U index before giving local supplementary food for 3 months show that the number of toddlers in the very short category is 75 children (65%), the number of toddlers in the short category is 41 children (35%), the number of toddlers in the normal category is 0 children and the number of toddlers in the high category is 0 children. After providing additional food made from local food for 3 months, it was found that the number of toddlers in the very short category was 23 children (20%), the number of toddlers in the short category was 49 children (42%), the number of toddlers in the normal category was 44 children (38%) and the number toddlers with a height category of 0 children.

Table 5 shows that there was a decrease in the number of very short and stunted people after being given local supplementary food for 3 months. Before being given local supplementary food for 3 months the number of very short and stunted toddlers was 116 (100%) after being given local supplementary food for 3 months the number of very short and stunted toddlers decreased by 38% to 72 children (62%).

Based on Table 5, there is an increase in the number of normal toddlers after being given additional local food for 3 months. Before being given additional local food for 3 months there were 0 children (0%) under five in the normal category, after being given additional local food for 3 months the number of toddlers in the normal category increased from 38% to 44 children (38%).

The difference in the average Z score value and the difference in the average Z score value of the anthropometric index BB/TB, BB/U, and TB/U according to age can be seen in Table 6 below:

**Table 6.** Differences in Mean Z Score Values and Changes in Mean Z Score Values based on BW/TB, BW/U and TB/U indices before and after being given additional food made from local food for 3 months

Anthrop ometric	Before PMT	After PMT	Changes (Δ)	Valu e ρ
Index BB/TB	-3.38 ± 4.48	-3.24 ± 2.42	0.14 ± - 2.06	0.269
BB/U	$-4.82 \pm 0.95$	$-4.2 \pm 0.5$	$0.62 \pm -0.45$	0.000
TB/U	-6.2 ± -2	-5.71 ± 0.15	$0.49 \pm 2.15$	0.000

Under normal circumstances, body weight growth will be in the same direction as height growth at a certain speed (Supariyasa, 2014). The results of the Z Score measurement based on the BB/TB index are classified into 6, namely severely wasted, undernourished, wellnourished, at risk of over-nutrition, over-nourished, and obese (Kemenkes RI, 2020a). Wasting refers to weight loss or weight growth in body height (Sadler et al., 2022). Wasting is a characteristic associated with acute hunger and/or severe illness (Mireku et al., 2020). Wasting is generally viewed as a short-term emergency problem (Sholam et al., 2013). Child feeding practices, exclusive breastfeeding, the introduction of water complementary foods, as well as challenges in obtaining food, are significantly associated with wasting (Danso & Appiah, 2023).

The statistical test to measure the difference between the Z Score and the BW/TB index before and after receiving additional food made from Rumah Pelita food for 3 months used the Paired T-Test. The Paired Ttest was carried out because the data was normally distributed. Based on the results of the Paired T-Test Z score with the BB/TB index before and after receiving additional food made from local food from Rumah Pelita for 3 months, a Sig (2-tailed) value of 0.269 was obtained. These results mean that there is no significant difference in the Z score and the BW/TB index before and after receiving additional food made from local food for 3 months. From this, it can be concluded that there is no real difference between the Z score of the BW/TB index before and after receiving additional food made from local food for 3 months.

This research is in line with research by Imas Rini, etc. in Semarang City which showed there was no change in nutritional status based on body weight according to height before and after being given additional recovery food (Rini et al., 2017). This research is not in line with research conducted by Aspatria in Tanah Putih Village, Tanah Tengah District, Kupang Regency, which showed that after being given additional food intervention for 30 days, there was a process of changing the nutritional status of toddlers in

a better direction, seen from the z-score value of toddlers with indicators. BW/TB after intervention was significantly (p<0.05) higher than before intervention (Aspatria, 2020).

The statistical test to measure the difference in Z Score based on body weight index according to age before and after receiving additional food made from local food from Rumah Pelita for 3 months used the Paired T-Test. The Paired T-test was carried out because the data was normally distributed. Based on the results of the Paired T-Test on the Z score with the BB/U index before and after receiving additional food made from local Rumah Pelita food for 3 months, a Sig (2-tailed) value of 0.000 was obtained. These results mean that there is no significant difference in the Z score and the BW/U index before and after receiving additional food made from local food for 3 months. From this, it can be concluded that there is no real difference between the Z score and the BB/U index before and after receiving additional food made from local food for 3 months.

This research is inversely proportional to research by Supadmi Sri, et al in Magelang in 2018 which stated that providing additional food can improve nutritional status. There was a decrease in the percentage of malnutrition status by 6.6%, and there was a decrease in malnutrition status by 10% (Supadmi et al., 2008).

The weight-for-age anthropometric index describes the relative body weight compared to the child's age. This index is used to assess children as underweight or very underweight, but cannot be used to classify children as obese or very obese. It is important to know that a child with a low weight for age may experience growth problems, so it needs to be confirmed with a weight for length index or weight for height or body mass index for age before intervention (Kemenkes RI, 2020a). Underweight is a term used to describe children who have a low body weight compared to their age (weight-forage) when compared to the 2006 WHO growth standards (Sari & Montessori, 2021).

The results of this research show that there is a difference between the Z score based on the BB/U index before and after being given additional food made from local food for 90 days. Research by Imas Rini, etc. in Semarang also stated that there was a difference between the Z score based on the BB/U index before and after being given additional recovery food (Rini et al., 2017). The results of this study are also in line with the results of Merry Wenda, etc.'s research in the Regency Lenny Jaya Papua, which showed that there was a significant difference in the mean change in the Z score value with the BW/U index before and after giving additional recovery food on the anthropometric weight for age index (Wenda et al., 1967).

Farida Fitriyanti's research in Semarang City also showed that there were differences in nutritional status based on the BW/U index after being given additional recovery food for 60 days. This is because the contribution of energy and protein intake from providing additional recovery food consumed by toddlers has increased every week and is supported by an increase in energy and protein intake from food other than additional recovery food so that the intake level in a day can mostly be met (Fitriyanti & Mulyati, 2012). The results of this research are also in line with Iskandar's research in the Lamreung Settlement, Darul Imarah District, Aceh Besar, which stated that providing additional food with a modified formula based on vellow pumpkin influenced the nutritional status of toddlers. This can be seen from the Z-Score of the toddler's BB/U index before it was carried out. giving was 2.71 SD and the final Z-Score was 2.49 SD (Iskandar, 2017).

Sugianti Elya's research in Tuban Regency in 2017 stated that there was an increase in the weight of toddlers targeted by the PMT-P program, this shows that the PMT-P program for toddlers in Tuban Regency had a positive impact on the weight gain of target toddlers (Elya Sugianti, 2017). Research by Masri Erina, et al in Nagari IV Koto Mudik stated that providing additional food (PMT) together with nutritional counseling affected malnutrition status aged 6 – 24 months (Masri et al., 2021).

The statistical test to measure the difference in Z scores based on the TB/U index before receiving additional food made from local food for 3 months and after receiving additional food made from local food for 3 months uses the Wilcoxon test. The Wilcoxon test was carried out because the data was not normally distributed. Based on the Wixocon test results, the Z score is based on the TB/U index before and after giving local supplementary food for 3 months at known Asymp. Syg (2-tailed) is worth 0.000. It can be concluded that there is a difference between the Z score and the BW/U index before and after receiving additional food made from local food for 3 months. So it can be concluded that there is an influence of providing additional food made from local food for 3 months on the Z score based on the BB/U index.

Body length and height are the best predictors of chronic malnutrition/stunting (Tamir et al., 2022). The TB/U index Z score describes the growth in length or height of a child based on his age. This index can identify children who are stunted or very stunted, which is caused by long-term malnutrition or frequent illness (Kemenkes RI, 2020a). Stunting is defined as body length/height at age >2 SD below the population reference median. Boys and girls who are stunted have a significantly lower average birth weight, current weight, height, TB/U Z Score, and weight change than their peers who are not stunted (Savanur & Ghugre,

2016). Stunting is considered a chronic developmental problem, and this is reflected in policies, financing models, and program design (Sholam et al., 2013). Stunting refers to the slowing or cessation of linear growth (Sadler et al., 2022).

Good nutritional status improves physical growth and brain development if the body receives adequate nutritional intake. Optimal protein consumption will increase the baby's height. Sources of protein can be obtained from animals, known as animal protein. One source of animal protein is eggs. Eggs have high-quality animal protein which contains complete essential amino acids (Aridiyah et al., 2015).

The results of this study show that there is a difference between the Z score based on the TB/U index before and after being given additional food made from local food for 90 days. The results of this research are in line with Imas Rini's research in Semarang which stated that in the height for age anthropometric index, there was a significant difference in the change in the mean Z score value of the TB/U index before and after giving additional recovery food as indicated by the value of p=0.044 (p<0.05) (Rini et al., 2017). In contrast to the results of this research, research from Utma Aspatria in Tanah Putih Village, Kupang Tengah District, Kupang Regency stated that the effect of providing additional food intervention during the 30 days of intervention had not had a significant effect (p>0.05) on changes in the nutritional status of toddlers based on height indicator for age.

This research is in line with research by C. Suksesty, et al in Pandeglang Regency. C. Suksesty's research used boiled chicken eggs as a combination source of animal protein given to stunted toddlers for 30 days. Chicken eggs are easy to get and almost everyone, including toddlers, likes them. Amino acids in protein will function to build bone matrix and influence bone growth by modifying the secretion and action of the osteotropic hormone IGF-I so that peak bone mass potential occurs. The research results showed that there was a change in nutritional status from stunting to non-stunting based on height/age categories (Suksesty et al., 2020).

# Conclusion

Providing additional food made from local food with a 4-star concept snack menu for 3 months did not have a significant effect on changes in nutritional status based on weight for height (WW/TB). Providing additional food made from local food with a snack menu with a 4-star concept for 3 months had a significant effect on changes in nutritional status based on body weight for age (WW/U) and height for age (TB/U).

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#### **Author Contributions**

Conceptualization, Data Curation, Formal Analysis written by Mahmudah Khurotul Aini who is the correspondent. Funding acquisition by the Health Human Resources Development and Empowerment Agency (BPPSDM Health). Investigation, Methodology, Project Software bv Mahmudah Khurotul Resources, Supervision, validation by Mahmudah Khurotul Aini, Ani Margawati, Sri Winarni. Writing-original draft by Mahmudah Khurotul Aini. Writing-review & editing by Mahmudah Khurotul Aini, Ani Margawati, Sri Winarni

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#### **Conflicts of Interest**

The author states that there is no conflict of interest that occurs in this research

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