



EVALUATION OF THE SUCCESS SUPPLEMENTARY FEEDING PROGRAM (PMT) FOR TODDLERS WITH UNDERNUTRITION

Farida Hendriana*, Endah Mulyani

Nutritional Science Study Program, Universitas Muhammadiyah Gresik, Jl. Sumatera No.101, Gn. Malang, Randuagung, Kebomas, Gresik, Jawa Timur 61121, Indonesia

*adyraf78@gmail.com

ABSTRACT

Good nutritional status is a determining factor for the success of developing quality human resources. Toddlers are one of the groups vulnerable to nutrition that need special attention. Efforts made to overcome malnutrition in toddlers are by providing additional food (PMT) based on local food ingredients. Objective: This study aims to spark the success of the local food-based additional food program for malnourished toddlers at the Glagah Health Center, Lamongan Regency. The design of this study was experimental with pretest and posttest. The location of the study was in the Glagah Health Center work area, Lamongan. Based on data from the PMT monitoring report, the study population involved 100 toddlers aged 19-60 months with malnutrition status with total based on the weight to height (BB/TB) indicator used in assessing nutritional status. Use total sampling techinc. Statistical tests were carried out using the Paired Sample T-test with a significance value of <0.05. The study showed a significant increase after 56 days of receiving PMT and monitoring was carried out which showed a difference in BB/TB before and after the PMT was given with a p value = 0.000. There is effectiveness in providing additional food based on local food ingredients to toddlers with poor nutritional status in the Glagah Health Center work area, Lamongan.

Keywords: PMT; toddlers; under nutrition

How to cite (in APA style)

Hendriana, F., & Mulyani, E. (2024). Evaluation of the Success Supplementary Feeding Program (PMT) for Toddlers with Undernutrition. Indonesian Journal of Global Health Research, 6(S6), 1255-1260. <https://doi.org/10.37287/ijghr.v6iS6.5303>.

INTRODUCTION

According to Law Number 17 of 2007 concerning the National Long-Term Development Plan for 2005-2025, it states that Health Development is an effort made by all components of the Indonesian nation to increase awareness, willingness and ability to live healthily for all people in order to realize an optimal level of public health, as an investment for the development of human resources that are socially and economically productive. Health Development to be achieved in 2025 is an increase in the level of public health as evidenced by an increase in life expectancy, a decrease in maternal mortality, a decrease in infant mortality and a decrease in the prevalence of malnutrition. (Kemenkes, 2024). Good nutritional status is a determining factor in the success of developing quality human resources. Toddlers are one of the groups vulnerable to nutrition that need special attention, because the long-term impacts that arise can cause malnutrition. Where the toddler age is the age of growth and development that requires adequate nutrition. (Kemenkes RI, 2023). The consequences that can occur due to malnutrition in toddlers are impaired mental development and intelligence, in adulthood there is a physical size that does not match their age which has an impact on the quality of work that is not competitive and results in low economic productivity. In addition, they are susceptible to degenerative diseases or non-communicable diseases.(Rachmi, 2019).

According to WHO data in 2020, 149 million toddlers experienced stunting, 45 million experienced thinness and 38.9 million were overweight. Where 45% of toddler deaths are caused by malnutrition. Meanwhile, in Indonesia, the problem of malnutrition is still quite high, although the trend shows a decline from 2022 to 2023. Based on SSGI data, the prevalence of wasting is 7.7% (Kemenkes RI, 2023). Based on data from the 2023 Indonesian Health Survey, the prevalence of malnutrition/wasting in toddlers (according to the weight-for-height indicator) in Indonesia is 6.4%, while in East Java the figure is higher, namely 6.8% and in Lamongan district 6.7%. (Kesehatan RI, 2023) . However, the prevalence of malnutrition at the Glagah Health Center in 2023 was higher than that of Lamongan Regency, namely 8.8%. (Profilakes Lamongan ,2023).

There are 2 (two) factors that directly affect nutritional status, namely food consumption and health status (infectious diseases). These two factors influence each other. Low food intake continuously causes malnutrition. The longer the lack of food intake, the more it can trigger malnutrition. Poor health conditions make a person susceptible to disease, for example infectious diseases, such as diarrhea and acute respiratory infections (ARI). These infectious diseases can interfere with food consumption and nutrient intake so that food is not properly absorbed by the body. Indirect factors that affect nutritional status are access to food, parenting patterns, availability of clean water and access to health services(Rachmi, 2019). Providing Supplementary Food (PMT) based on local food is one strategy to overcome nutritional problems in undernourished toddlers so that they do not fall further into a state of malnutrition. The PMT activity needs to be followed by counseling on nutrition and health for behavioral change, for example by providing motivation in providing breast milk, counseling and counseling on providing proper food for infants and children, and family cleanliness and sanitation.(Kemenkes RI, 2023).

The success of the local food-based supplementary feeding program is highly dependent on the selection of food ingredients that are tailored to the nutritional needs of children, as well as the preparation of menus that pay attention to nutritional value and food variety. In addition, this strategy also pays attention to the wisdom of local food plants, so that this program is more acceptable and sustainable in the long term. (Wardani, 2023). The implementation of the local food-based PMT program for malnourished toddlers aged 12-59 months at the Glagah Health Center was carried out on May 15, 2024–July 9, 2024 (for 56 days). Every day PMT is given to the target with a 10-day menu cycle, namely snacks on days 1-6, on the 7th day in the form of complete food and so on. Where monitoring is carried out every day by Nutrition Service Personnel (TPG), midwives and cadres. Based on the description above, the researcher is interested to spark the success of the local food-based additional food program for malnourished toddlers at the Glagah Health Center, Lamongan Regency

METHOD

This is an experimental analytical study with a pretest and posttest design. The location of the study was in the Glagah Health Center work area. Data were obtained from the report on the results of monitoring the implementation of local food-based supplementary feeding (PMT) at the Glagah Health Center from May to July 2024. The population of this study were all toddlers with poor nutritional status ($-2SD$ to $-3SD$) based on BB/TB indicators aged 19-60 months in Glagah District, totaling 100 toddlers. The sampling technique in this study was total sampling. This supplementary feeding (PMT) activity is monitored and evaluated, intake and weight every week by the implementing team. Before the activity was carried out, parents of toddlers with poor nutritional status had been given socialization regarding the provision of additional food. Data collection on improving nutritional status was taken by measuring body weight per height before and after giving PMT. The data obtained will be subjected to a different test using the Paired Sample T test.

RESULT

Based on the results of the research that has been conducted, the number of malnourished toddlers aged 19-60 months in 2024 in the Glagah Health Center work area is 100 toddlers with malnutrition status based on the BB/TB indicator.

Table 1.
Frequency Distribution of the Number of Undernourished Toddlers Based on Gender
Respondent characteristics (n= 100)

Malnourished Toddlers		f	%
Gender	Man	54	54.0
	Woman	46	55.0
Age	< 20 month	3	3.0
	21-40 month	46	46.0
	41-60 month	48	48.0
	>60 month	3	3

Based on table 1. Shows the results of the study, namely the number of malnourished toddlers who were the most sampled, namely 54 male toddlers and 46 female toddlers. The majority of toddlers are aged 21-60 months, namely 94 toddlers.

Table 2.
The influence of supplementary feeding (PMT) on the weight and height of toddlers
Respondent characteristics (n= 100)

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	SD sebelum intervensi - SD sesudah intervensi	-.70840	.63181	.06318	-.83377	-.58303	-11.212	99	.000

Based on the results of the analysis using paired t test, in table 2. This study states that there is a statistically significant difference ($p < 0.05$) between the SD values before and after the intervention. The average change is -0.70840, which means that the average SD value after the intervention has a higher value than before the intervention.

DISCUSSION

Children's health, especially babies and toddlers, is a priority aspect that needs to be considered because children have high value for family members and their nation. (Oktaviani et al., 2023). In a study conducted with the number of undernourished toddlers aged 19-60 months in 2024 in the Glagah Lamongan Health Center working area, there were 100 toddlers with undernourished nutritional status based on BB/TB indicators. One of the direct causes that can affect the nutritional status of toddlers is nutritional intake. Nutritional intake includes macronutrients such as carbohydrates, proteins and fats. Macronutrients are substances that the body needs in large quantities and primarily function to provide energy. The level of macronutrient intake can affect the nutritional status of infants. For early childhood, adequate energy and protein intake and adequate body needs are directly proportional to good nutritional status.

Table 1. Shows the results of the study, namely the number of malnourished toddlers who were the sample, with 54 male toddlers (54%) and 46% female. A person's nutritional needs, one of which is due to gender, male gender will need more energy and protein compared to female gender.(Hersila et al., 2022). In this study, as many as 100 samples, most of the children with malnutrition were aged 21-60 months because at that age they are vulnerable to nutritional problems because they are in a significant phase of development and growth during that period, and there are several other factors that affect their eating patterns and health conditions. This is in line with research (Putri & Mahmudiono, 2020) which states that increasing age is directly proportional to the increase in the amount of nutritional needs.

Table 2 shows the average toddler after PMT intervention is -0.70840 with a minimum z-score of -0.83 and a maximum of -0.58. The results of this study analysis state that there is an effect of providing PMT based on local food ingredients on weight gain (BB) and height (TB) of toddlers with malnutrition status before the intervention. The results of the statistical test show a p value = 0.000 ($p < 0.05$) which means there is a difference in BB/TB after the intervention, namely the provision of additional food (PMT) based on local food. This is in line with research (Amala & Ruhana, 2023) which states that there is an increase in body weight before and after giving PMT to toddlers who have poor nutritional status, namely with a p value = 0.000. This is in accordance with research that has been conducted by (Faizul Haq et al., 2023) namely, providing PMT is one method that is quite effective and has a great influence on improving the nutritional status of toddlers and as an effort to reduce stunting rates.

In the research also in line (Fajar et al., 2022) namely there is a difference in weight gain with nutritional status BB/TB before the implementation of the PMT program and after the PMT program was implemented. However, in the study (Putri & Mahmudiono, 2020) stated that there was no difference in the nutritional status of toddlers with the anthropometric index of BB/TB before and after being given recovery PMT. Providing additional food to undernourished toddlers in addition to obtaining nutrients from food with balanced nutrition, is also a form of nutritional education for mothers of toddlers that can be practiced directly at home. The process of changing from adequate or inadequate maternal knowledge to good is because mothers of toddlers receive sources of information related to the management of additional food made from local ingredients for toddlers by health workers, in health education contains information for mothers of toddlers to understand the importance of additional food or nutrition for their toddlers so that mothers of toddlers understand the importance of Providing Additional Food (PMT) for toddlers with nutritional problems(Wiliyanarti et al., 2022).

In some cases, the supplementary foods provided may not meet the required nutritional standards or may even be contaminated, causing health risks to toddlers who consume them. (Hartono Ahmad & Saimi, 2024). In areas affected by conflict or humanitarian crises, supplementary feeding programs often face additional constraints, such as difficulties in distributing food, security disruptions, and limited mobility. Addressing these constraints requires a holistic and integrated approach from governments, international agencies, non-governmental organizations, and local communities to ensure that supplementary feeding programs achieve their goals.

CONCLUSION

The provision of additional food based on local food for toddlers with malnutrition status in the Glagah Lamongan Health Center work area has a significant relationship to the BB/TB Standard Deviation before and after the PMT provision intervention with an average change of -0.7840 in toddlers aged 19-60 months and a p value = 0.000. This means that there is effectiveness in providing additional food based on local food ingredients for toddlers with malnutrition status in the Glagah Health Center work area, Lamongan

REFERENCES

- Amala, H. Z., & Ruhana, A. (2023). Effectiveness Of Implementation Of Supplementary Food Provision (PMT) Recovery For Children Under Five Years Old (Toddlers) With Malnutrition In Watubonang Village, Badegan District, Ponorogo Regency. *Journal Of Nutrition, Surabaya State University*, 03(01), 193–198.
- Faizul Haq, M. R., Irfanda, P. D., Ramadhani, F., Nurhasanah, W., & Widiyarta, A. (2023). The Effect Of Supplementary Food Provision (PMT) Program On Nutritional Status Of Toddlers In Sumbersuko Village, Probolinggo Regency. *Journal Of Community Service, Nusantara*, 4(3), 1964–1970. <https://doi.org/10.55338/Jpkmn.V4i3.1258>
- Fajar, S. A., Anggraini, C. D., & Husnul, N. (2022). Effectiveness Of Providing Additional Food On The Nutritional Status Of Toddlers At The Citeras Health Center, Garut Regency. *Nutrition Scientific Journal*, 1(1), 30–40. <https://doi.org/10.37058/Nsj.V1i1.5975>
- Hartono Ahmad, L., & Saimi. (2024). LOCAL FOOD INGREDIENTS FOR TODDLERS WITH UNDERNUT IN KUTA VILLAGE, PUJUT DISTRICT, CENTRAL LOMBOK REGENCY IN 2023. *Darrussalam Nutrition Journal*, 8(November), 96–107. <https://doi.org/10.21111/Dnj.V8i2.11663>
- Hersila, N., Yeni, R., Maisari, S., & Fevria, R. (2022). Factors Influencing Eating Habits Of Early Childhood: Literature Review. *Proceedings Of The National Seminar On Biology*, 2(2), 841–848. <https://semnas.biologi.fmipa.unp.ac.id/index.php/prosiding/article/view/524?articlebynameauthorpage=6>
- Ministry Of Health. (2024). Regulation Of The Minister Of Health Of The Republic Of Indonesia No. 2 Of 2024 Concerning Guidelines For The Implementation Of Deconcentration Of The Ministry Of Health In 2024. 1–42.
- Ministry Of Health Of The Republic Of Indonesia. (2023). Technical Instructions For Additional Food For Toddlers And Pregnant Women. Jakarta: Directorate Of Community Nutrition, Ministry Of Health Of The Republic Of Indonesia, 6(August), 78–81. https://kesmas.kemkes.go.id/assets/uploads/contents/others/20230516_Juknis_Tatalaksana_Gizi_V18.Pdf
- Kesehatan RI, K. (2023). *INDONESIAN HEALTH SURVEY (SKI) IN FIGURES*.
- Oktaviani, D., Suprapti, S., & Mulyani, E. (2023). Training On Making MP-ASI Based On Local Food In Domas Village, Gresik Regency. *Indonesian Journal Of Community Dedication In Health (IJCDH)*, 3(01), 19. <https://doi.org/10.30587/Ijcdh.V3i01.4775>

- Putri, A. S. R., & Mahmudiono, T. (2020). Effectiveness Of Providing Supplementary Food (PMT) Recovery On Toddler Nutritional Status In The Simomulyo Health Center Work Area, Surabaya. *Amerta Nutrition*, 4(1), 58. <https://doi.org/10.20473/Amnt.V4i1.2020.58-64>
- Rachmi, C. N. (2019). Healthy Living From Now On For Today's Teenagers. <https://ayosehat.kemkes.go.id/buku-modul-pendidikan-gizi>
- Wiliyanarti, P. F. W., Dede Nasrullah, Royyan Salam, & Idam Cholic. (2022). Education On Providing Supplementary Food Based On Local Ingredients For Stunting Toddlers With Animation Media. *Indonesian Nutrition Media*, 17(1SP), 104–111. <https://doi.org/10.20473/Mgi.V17i1sp.104-111>.