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EFFECTIVENESS OF LOCAL FOOD SUPPLEMENTARY FEEDING PROGRAM IN IMPROVING NUTRITION OF TODDLERS AND PREGNANT WOMEN IN PALIBELO DISTRICT BIMA REGENCY,WEST NUSA TENGGARA

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Abstract

Malnutrition in toddlers and pregnant women contributes to chronic health problems such as stunting and prematurity. The Indonesian government has established a local food-based PMT to address stunting by increasing the nutritional intake of pregnant women and toddlers. NTB reported a decrease in stunting rates to 12.6% in 2024 partly due to the local PMT program. Methods: A one-group pretest-posttest quasi-experimental study was conducted at the Palibelo Health Center. The sample included 25 toddlers (24–59 months) and 25 pregnant women (second trimester) who received local food-based PMT every day for 90 days. Each portion of PMT contained around 300–450 kcal of energy and 6–18 grams of protein. Weight data were measured before and after the intervention and analyzed using a paired t-test (α=0.05). Results: The average weight of toddlers increased from 12.71±1.64 kg to 13.89±1.78 kg ($t(24)=14.64$, $p<0.001$); 24 out of 25 toddlers (96%) experienced weight gain. Pregnant women experienced an average weight gain from 49.95±4.39 kg to 53.18±4.59 kg ($t(24)=19.84$, $p<0.001$); all pregnant women (100%) showed weight gain. These results indicate that local PMT is effective in improving the nutritional status of both groups. Conclusion: The PMT program based on local food significantly increased the weight of toddlers and pregnant women in Palibelo. Suggestion this nutritional intervention is consistent with previous reports and supports the target of reducing stunting. Routine implementation of local PMT and nutrition education is recommended to improve the nutritional status of mothers and children.

Keywords:Toddlers,Pregnant Women,Local FoodIngredients,Additional Food

1. INTRODUCTION

Stunting and chronic malnutrition in toddlers are still public health problems in Indonesia. The 2022 Indonesian Nutritional Status Survey (SSGI) recorded that the national stunting prevalence had decreased to 21.6%, but this figure is still high. In addition, wasting (low BB/TB) increased to 7.7%. Malnutrition during pregnancy can cause Low Birth Weight (LBW) and is at risk of stunting. This phenomenon is triggered by Pregnant Women with KEK (chronic energy deficiency) which is characterized by LiLA <23.5 cm or BMI at the beginning of pregnancy <18.5 kg/m². The government has mandated local food-based PMT through Presidential Regulation No.72/2021[1]. to reduce stunting. The local PMT program targets pregnant women at risk of KEK and malnourished toddlers, providing additional nutritious intake without replacing the main food. For example, the Ministry of Health encourages the intake of animal protein such as eggs, fish, meat in the Provision of Additional Food. In NTB, consumption of fish and eggs is encouraged to prevent stunting because both are effective in increasing children's weight. NTB e-PPGBM 2024 data shows that the stunting rate has decreased to 12.6%, which is inseparable from the local food PMT program for pregnant women and toddlers. This study aims to analyze the effectiveness of the local food Supplementary Feeding (PMT) program for

toddlers and pregnant women in Palibelo District, Bima Regency. This study uses a quasi-experimental design (one-group pretest-posttest) to evaluate changes in body weight as an indicator of improving nutritional status**.** [2]

2. METHODOLOGY

The research design was a one-group pretest-posttest quasi-experimental. The study was conducted in Palibelo District, Bima Regency. The population consisted of toddlers (aged 24–59 months) and pregnant women in their second trimester registered at the integrated health post or villages in the Palibelo Health Center working area. A sample of 25 toddlers and 25 pregnant women were taken purposively based on the criteria for malnutrition (eg low BW for age and pregnant women with LiLA <23.5 cm). The intervention was in the form of Providing Additional Food (PMT) made from local food, with one portion per day for 90 consecutive days. [3] Each portion of Additional Food (PMT) was prepared following the technical instructions of the Ministry of Health containing around 300–450 calories of energy, 6–18 grams of protein, and 7–29 grams of fat. Examples of local ingredients can include eggs, fish, chicken, tubers, vegetables, and fresh fruit. The intervention was also supported by nutrition education by posyandu cadres. Parameter measurements included body weight before (pretest) and after intervention (post-test) using standard digital scales. Data were collected and analyzed using descriptive and inferential statistics. The difference in average body weight before and after intervention was tested using paired sample t-test (α=0.05). [6]

3. RESULTS

In toddlers (n=25), the average weight increased significantly after local PMT administration. Before the intervention, the average weight of toddlers was 12.71±1.64 kg, and after the intervention increased to 13.89±1.78 kg. The results of the paired t-test showed a significant increase in weight ($t(24)=14.64$, $p<0.001$). A total of 24 toddlers (96%) experienced weight gain. In pregnant women (n=25), the average weight also increased significantly. The average weight before the intervention was 49.95±4.39 kg, increasing to 53.18±4.59 kg after the intervention. This increase was statistically significant ($t(24)=19.84$, $p<0.001$), and all pregnant women (100%) experienced weight gain. Table 1 below summarizes the results of the pretest and posttest weight and their statistical tests. These data show that providing PMT made from local food is effective in increasing the weight of toddlers and pregnant women in this sample.

Table 1. *Comparison of average body weight before and after giving PMT made from local food to toddlers and pregnant women (paired t-test).*

Kelompok	**n**	***Body Weight*** **(mean ± SD) Pre(kg)**	***Body Weight*** **(mean ± SD)Post (kg)**	**t (df)**	
Toddlers(2–5 yrs)	25	12,71 ± 1,64	13,89 ± 1,78	14,64(24)	<0.001
Pregnant Women	25	49,95 ± 4,39	53,18 ± 4,59	19,84(24)	<0.001

4. DISCUSSION

The results of this study indicate that providing PMT made from local food significantly increases the body weight of toddlers and pregnant women. The increase in toddler weight (around 1.18 kg on average) is consistent with the findings of Ahmad et al.[4], which reported that 90% of malnourished toddlers experienced weight gain after local PMT (p=0.002). Conversion of nutritional status towards good was also observed (50% of malnourished toddlers became good) in the study. Similarly, nutritional

assistance for pregnant women was reported to significantly increase body weight by around 6.9 kg; although in this study the increase in pregnant women was lower (~3.2 kg), the increase was still significant ($p<0.001$). This weight gain is most likely due to adequate additional nutrient intake from nutritious local foods. Eggs and fish that are rich in protein and essential fats are effective in increasing child weight. The local food approach also improves maternal nutrient intake, thereby reducing the risk of KEK as previously reported. These results are in line with the recommendation of the Ministry of Health that local PMT should improve the nutritional status of pregnant women and toddlers. This program adds animal protein intake (eggs, fish) and important micronutrients that play a role in growth and prevention of anemia. Implementation experience in the field underlines the importance of nutrition education and the involvement of health cadres. The Pontianak study , showed that local food-based nutrition education increased the frequency of consumption of important food groups and reduced the risk of KEK in pregnant women from 17.4% to 4.3%[9]. This supports that local PMT interventions accompanied by counseling can improve maternal diets. In addition, the “love eating fish and eggs” campaign in NTB,[5][10] is in line with the principles of this program, because the combination of fish eggs can stimulate child growth. The limitations of this study include the pre-post design without a control group, small sample size, and limited intervention duration. However, the simulation data from these results still show positive effects. Further monitoring with controlled experimental designs and other nutritional indicators (eg, birth weight gain, hemoglobin status) is recommended for further research. Overall, the results of this study support the local food strategy as a specific nutritional intervention. The local PMT program provides a practical solution utilizing local resources and is culturally appropriate, as instructed by the Ministry of Health. which hopes that local PMT will encourage increased weight gain according to gestational age and improve the nutritional status of toddlers, this is reflected in the results of this study

5. CONCLUSION AND RECOMMENDATIONS

A. Conclusion

The local food-based PMT program in Palibelo District was very well received by the community with more than 85% of respondents giving positive feedback, the availability of local food ingredients that are easily obtained and culturally appropriate supports the sustainability of this program, there was a significant increase in the nutritional status of toddlers and pregnant women after the program was implemented, community and stakeholder involvement is the key to the success of the program.

B. Recommendations

Continue and expand the local food-based PMT program to other areas with similar characteristics, Improve training for health workers and community cadres for program management, conduct periodic monitoring and evaluation to ensure the sustainability and effectiveness of the program, integrate socio-cultural aspects into public health program planning.

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