



The Empowered Integrated Health Posyandu's Program: Improving Toddler Nutrition and Boosting Household Economy in Kutaliman, Kedungbanteng, Banyumas Regency

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Abstract

The knowledge about the nutritional status of toddlers is very important for every parent because malnutrition can have an impact on a child's development. Malnutrition issues in toddlers can be caused by several factors including socio-economic conditions, maternal nutrition quality during pregnancy, infant health, and the level of nutrient intake during infancy. Specific measures in the field of nutrition are more focused on addressing the root causes of nutritional problems, such as dietary patterns and infectious diseases, and fall within the framework of health policies. The goal of community empowerment efforts is to improve the quality of life and social status of communities currently living in poverty so they can change their circumstances. One form of empowerment in improving nutrition is by harnessing the resources available in villages, such as agricultural products, plantations, livestock, and fisheries, which are then creatively processed by the local community to produce nutritious products and enhance household economic potential. In this endeavor, we identify that in nearly every region, future generations face serious threats related to the nutritional status of toddlers. Therefore, preventive measures starting at the household level are essential. Through the Empowered Integrated Health Posyandu's program, the goal of improving toddler nutrition from the household level can be realized through community outreach, guidance, and active participation especially in Kutaliman, Kedungbanteng, Banyumas Regency.

Keywords: Posyandu's, Malnutritions, Empowered village housewives

1. Introduction

The issue of malnutrition, particularly the prevalence of stunting among children under the age of five, can hinder early development and have adverse effects on their future well-being (Kustanto, 2021). Malnutrition is not solely caused by insufficient food availability or limited access to healthcare and sanitation services. The level of care and nourishment provided to children, which is greatly influenced by women's education, social standing, and workload, is now recognized as a substantial contributing factor (UN, 1997). At the household level, the nutritional well-being is influenced by the household's capacity to supply sufficient food in terms of both quantity and quality, the mother's child-rearing practices, understanding of nutrition, and various socio-cultural factors. The Specific efforts in the field of nutrition are more focused on addressing the direct causes of nutritional problems, such as dietary patterns and infectious diseases, and are part of the health policy framework. The nutrition program at district level is a part of national nutrition program. The national policy of nutrition program consists of 4 sub programs: program on protein-calorie malnutrition, program on iron-anemia, program on vitamin A deficiency, and program on iodine deficiency. All of these are implemented at district level, and the government of Indonesia determines the objectives are as follows: reducing prevalence of protein-calorie malnutrition among children to 20%, reducing iron-anemia of pregnant women to 40%, there is no clinically vitamin A deficiency of pregnant women, and increasing consumption of iodized-salt to 90% household. Implementation of nutrition program at community level is through Posyandu (Integrated Health and Nutritional Services). Posyandu (Health and Nutrition Integrated Service Center) is a center which is run by the community and which provides services, such as Family Planning, Mother and Child Health, Nutrition (growth monitoring, supplemental feeding, vitamin and mineral supplementation, and nutrition education), Immunization, and Diarrhea Disease Control. Posyandu is supported by government (Ministry of Health as the leading sector, supported by Family Planning Board, Ministry of Internal Affairs, etc.) (Anwar, 2010). The Empowered

Integrated Health Posyandu Program is a form of community empowerment in the field of Health. One of the posyandu programs aimed at addressing toddler nutrition involves providing nutritious food, primarily sourced from the community's plantations or livestock, creatively processed by a group of community cadres. This initiative is designed to stimulate the local economy through empowerment in household nutrition. Community empowerment is a step towards improving the quality of life and social status of those currently facing difficulties in breaking free from the cycle of poverty. In other words, empowerment means enabling and self-sufficiency for the community. Training is a process of imparting specific knowledge, skills, and attitudes to make individuals more competent and capable in fulfilling their responsibilities to a higher standard (WHO, 2017). Posyandu cadres play a crucial role as health advocates, health educators, and healthcare providers through Posyandu. Community empowerment stems from the motivation to improve family and community health, the ability to identify healthcare needs and challenges, and an understanding of available resources. Forms of empowerment for nutritional improvement include utilizing various agricultural, livestock, and fisheries products in the village to enhance family nutrition and improve household economies. The training received by rural communities, managed by the community itself, provides them with opportunities to develop various learning models with the goal of enhancing the skills and abilities of the community to improve their quality of life.

2. Literature Review

The study conducted by Anwar in 2010 focused on assessing the nutritional status and food consumption patterns of children participating in the Posyandu nutrition program. The research sample comprised 300 children under the age of five, categorized into two groups based on their level of participation in the Posyandu program. The study was conducted in two sub-districts within Cianjur District, West Java, known for their high poverty rates and widespread utilization of the government's Posyandu nutrition program. The findings revealed that 92.4% of children in the high participation group regularly visited Posyandus, while only 28.3% of children in the low participation group did so. Despite this variation in participation rates, the study identified that the average energy consumption among children under five remained below the recommended dietary allowance, falling below 80% of the RDA. In contrast, protein consumption exceeded the RDA. Nutritional assessment indicated that 30.0% of the children were underweight, 43.7% suffered from stunting, and 12.3% were affected by wasting. Importantly, the study found a positive correlation between the frequency of Posyandu visits and improved nutritional statuses, particularly in terms of weight for age (W/A) and weight for height (W/H). In summary, Anwar's research highlighted the positive impact of Posyandu activities on the nutritional status of children under five years old, particularly when considering weight-related indicators. The study underscored the importance of regular Posyandu visits in addressing nutritional challenges among children in areas with high poverty rates and the effective role of these programs in promoting healthier dietary practices.

3. Materials and Methods

3.1 Materials

In this endeavor, we have identified that across nearly all regions, future generations face a serious long-term threat due to the nutritional status of toddlers. Therefore, preventive measures need to commence at the household level. The objective of the Empowered Posyandu Program is to enhance the knowledge of mothers with toddlers and the caring community of Kutaliman village regarding efforts to improve toddler nutrition. This initiative has led to the formation of health cadres capable of encouraging community participation in the successful implementation of the Empowered Posyandu Program, thus maximizing the economic potential of the surrounding community for optimal empowerment. Through the Empowered Posyandu Program for the Community, it can provide solutions such as:

1. Education on improving family nutrition.
2. Practicing community empowerment by utilizing local agricultural, livestock, and fisheries products creatively to meet family nutrition needs and stimulate household economic potential.

As a result, the community, along with its environment, can become self-sufficient in improving family nutrition, particularly for the betterment of toddler nutrition.

The target beneficiaries of the Empowered Posyandu Program include:

1. Mothers with toddlers and/or mothers at risk of having stunted toddlers.
2. Housewives who are not employed but have creativity in preparing nutritious food materials.

Various elements will be involved in this activity, including:

1. The Kutaliman Village Government, serving as policy makers for the Empowered Posyandu Program.
2. Posyandu's cadres of Kutaliman Village, acting as both drivers and implementers of the Empowered Posyandu Program.

3. The Anggrek-1 Posyandu Group, providing assistance to housewives in preparing nutritious food to meet household nutritional needs.

3.2 Methods

The implementation flow of the Empowered Posyandu Program consists of the following stages:

1. Preparation Stage

Activities conducted during the preparation stage include:

- a. Developing educational material outlines.
- b. Preparing the necessary facilities and infrastructure, including slides and videos.
- c. Arranging all the requirements for the Posyandu's cadres.

2. Education Stage

The topics to be covered during the education phase include:

- a. Toddler Status
- b. Family Nutrition Improvement
- c. Introduction to the potential food resources from the community's harvests.

The media prepared for this stage include PowerPoint presentations, printed slides, and videos related to the educational content. The mechanism for conducting the education includes the following steps:

- a. Preparing printed presentation materials to be distributed to the participants.
- b. Conducting the education session.
- c. Screening supporting videos related to the educational content.

3. Evaluation Stage

During this stage, we assess the understanding of the material and practical skills, with the evaluation outcomes serving as benchmarks for comprehension and proficiency in the program that has been provided. During the evaluation phase, an assessment of the Posyandu cadres' knowledge was conducted by providing each of them with 20 pre-test and post-test questions related to the material. The calculation of scores was done using the following formula:

$$\text{Score} = \frac{\text{Total Correct Answers}}{\text{Total Questions}} \times 100 \quad (1)$$

Next, the evaluation of material understanding is measured using N-gain or Normalized gain. N-gain is a method used in assessing learning outcomes to measure the improvement in understanding or performance of participants after completing a program or training. N-gain is used particularly in the context of assessing learning outcomes in the field of education and training. The average normalized gain value is calculated using the formula:

$$NGain = \frac{\text{Post test Score} - \text{Pre test Score}}{\text{Maximum Score} - \text{Pre test Score}} \quad (2)$$

The calculation results of N-gain are categorized as follows.

High-gain	$N\text{-gain} \geq 0.7$
Medium-gain	$0.3 \leq N\text{-gain} < 0.7$
Low-gain	$N\text{-gain} < 0.3$

With the categories of interpretation of effectiveness as follows.

Tabel 1 The percentage of effectiveness based on the N-gain score.

Presentase	Efektivitas
<40	Tidak Efektif
40-55	Kurang Efektif
56-75	Cukup Efektif
>76	Sangat Efektif

(Hake, 1998).

4. Results and Discussion

The primary target audience for the Empowered Posyandu Program is pregnant women, mothers with toddlers, and housewives who are not employed in Kutaliman Village, Kedungbanteng, Banyumas Regency. Kutaliman Village is an agrarian village with various agricultural and livestock products with an area of 218.45 Ha. The distance to the subdistrict government center in Kedungbanteng is approximately 5 km, with a travel time of approximately 10 minutes, while the village is approximately 12 km away from the district government center, with a travel time of approximately 20 minutes.

The education session was conducted at the Kutaliman Village Hall, with a total of 30 (thirty) health cadres participants. The educational content included maternal and child healthcare services, presented by Village Midwife Sri Suhatni, A.Md. Keb. The primary focus of the material was to improve the stunting statistics among toddlers in the village through the provision of nutritious food. The presentation showcased various types of food and their nutritional values. Then during the food processing training session with material on Empowering Local Potential was delivered by Sesilia Rani Samudra, S.Pi., M.Si., a lecturer from the Faculty of Fisheries and Marine Sciences at Jenderal Soedirman University. The main topic was the preparation of nutritious dishes primarily using freshwater fish, especially tilapia. Tilapia can be used to create nutritious dishes that are favored by children, particularly toddlers, such as fish nuggets and fish meatballs.

The assessment of the success of this cadre education is carried out by measuring the cadres' knowledge related to the presented material through pre-tests and post-tests. The results of the cadre knowledge measurement are presented in Table 2.

Tabel 2 Assessment of pre-test and post-test for Posyandu cadres in Kutaliman Village.

Number of Posyandu's Cadres	Pre-test Score	Post-test Score
1	48	90
2	48	92
3	48	78
4	58	90
5	66	86
6	64	84
7	72	90
8	48	86
9	52	84
10	70	86
11	64	78
12	50	90
13	52	80
14	60	90
15	70	92
16	46	84
17	48	76
18	62	86
19	68	88
20	52	76
21	58	90
22	44	84
23	56	86
24	74	76
25	54	82
26	64	78
27	74	86
28	58	80
29	54	90
30	72	84

Based on the pre-test and post-test scores, the average pre-test score is 58.5, while the average post-test score is 87.4. Thus the average value of N-gain is 0.613 obtained with an effectiveness percentage of 61.3%. This indicates that the training provided to Posyandu cadres as community facilitators is quite effective. The following figures depict the Empowered Posyandu Program carried out by Posyandu cadres.



Figure 1 Nutritional education for Posyandu cadres before community outreach..



Figure 2 Processed foods from the agricultural and livestock products of the surrounding community.



Figure 3 Measurement of toddlers' physical development activities.

5. Conclusion

Based on the Empowered Posyandu Program currently being implemented, the following conclusions can be drawn:

1. There has been an increase in participants' knowledge about the importance of maintaining nutritional intake during pregnancy and for toddlers after receiving education. As a result, participants are able to practice a healthy lifestyle by consuming nutritious food.
2. The empowerment of housewives in processing food sourced from freshwater fisheries, especially tilapia and catfish, as well as various processed foods from fruits and vegetables such as banana pudding and potato-based dishes, has been established.
3. Economic cooperation is established to meet the nutritional needs of toddlers by the village government through Posyandu groups in collaboration with food source providers from within the local community.

Overall, the Empowered Posyandu Program is able to support the nutritional needs of mothers and children, especially toddlers, as mandated by the national nutrition improvement program instructed by the central government. Additionally, it fosters economic potential within the village community itself through food sources that contain nutritional value.

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