

## The Role of Women as Community Development Cadres in Stunting Prevention through Animal Protein-Based Product Processing Technology in Kampung Sewu Village, Surakarta

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### Abstract

This activity aims to examine the role of women cadres in community development in stunting prevention through processing technology for vegetable and animal protein-based products, especially in Kampung Sewu Village, Surakarta City. Stunting is a significant chronic nutritional problem in Indonesia, especially in children under five. One form of prevention is through nutritional interventions of protein sources based on processed plant and animal products. Through the empowerment of female cadres, often local community leaders, it is hoped that an increase in knowledge and skills in processing local food ingredients into high-nutritional products can be achieved. This activity involves training and technical assistance for women cadres in processing plant materials such as soybeans and beans and animal materials such as meat and eggs into attractive and nutritious food products. The results of this activity showed an increase in the ability of female cadres to process food, as well as an increase in the consumption of protein-based products among children. The impact of this intervention can potentially contribute to reducing the stunting rate in Kampung Sewu Village. This activity highlights the importance of the active role of women cadres in stunting prevention efforts and the need for continuous support from various parties to achieve optimal results through various efforts to improve skills in theory and processing practice.

**Keywords:** Women's Role, Community Development Cadres, Stunting, Food Processing Technology.

### INTRODUCTION

Balanced nutrition in toddlers is essential for optimal growth, and lack can inhibit growth, cause easy illness, and risk developmental disorders. Nutritional fulfillment in the first 1000 days of life is critical, especially in the phase of introducing complementary foods for breast milk, so based on WHO recommendations [1] toddlers aged 2-23 months need to be introduced to complementary foods. Choosing nutrient-rich foods such as red meat, eggs, and fish can help overcome nutritional problems in toddlers. The role of mothers, knowledge, skills, and support of Human Development Cadres (KPM) are essential in stunting prevention, especially in loci such as Kampung Sewu Village.

Human Development Cadres (KPM) are the spearhead in supporting stunting prevention and/or increasing stunting rates. Based on research [2], the role of women in this case mothers can contribute to stunting prevention by 57.02%. The high stunting rate in Surakarta City is based on the SK Wali Kota No: 140/49.8 of 2022 [3], so Kampung Sewu Village is one of the 10 loci stipulated in the Decree. PKM cadres are extension agents in striving to fulfill complementary nutrition requirements. Providing balanced nutrition based on animal protein is the right way and easy to adopt. However, menu variations and diversification of processed foods based on animal protein also need to be sought so

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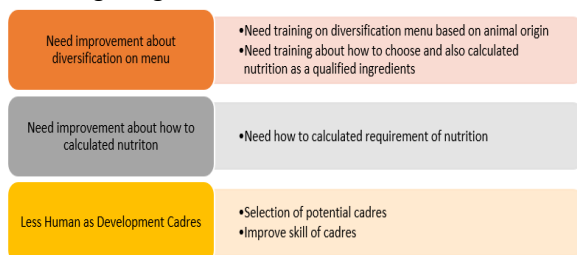
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that the diversity of protein sources can meet the needs of macro and micro minerals. Improving the skills of PKM cadres, especially regarding the diversification and variety of animal protein-based clown healthy menus.

The activity is focused on the sewu village because there are several problems that need to be solved, including in figure 1.



**Figure 1.** The problems and solutions carried out are this activity.

## MATERIAL AND METHOD

The community service team carried out this educational activity with an experimental design, filling out knowledge questionnaires before and after the education session. Nutrition training is carried out through conventional education related to stunting and complementary foods (principle, type, number, frequency, texture) for 60 minutes and then followed by a workshop that will be delivered on the material in one of the sessions.

Education and training will be delivered using power point slides and also participants will be given a summary of the material to be delivered. The training location will be a meeting hall in Sewu Village whose capacity is in accordance with the training participants. The resource persons who will be involved consist of a team of community service and professional resource persons according to their fields and competencies, namely the chairman of the Indonesia chef association.

In this education, we also prioritize the use of local food for the menu because the menu served must be affordable and easy to cook.

The training was carried out in 2 sessions, namely:

Session 1 will be delivered based on 2 methods, namely

### 1. Problem-based training.

The training stages can be completed with a pre-test, then reviewed, and then ended with a post test to find out quantitatively the percentage of skill improvement. This training is aimed at contributing to solving the problems experienced by cadres while on duty.

### 2. Competency-based training

This training stage is carried out by bringing in the right resource persons, namely a competent Service Team according to the theme needed and a question and answer session is provided in order to improve the competence of cadres

Session 2 is a training with a learning by doing model which will be carried out with 2 methods, namely:

1. Interactive evaluation model through QIS in the form of questions and answers and also filling in questioners
2. competitive method through the best menu presentation competition made by KPM.

The implementation will be carried out on July 25, 2024 and starts at 08.30 until it is finished. The participants of this activity amounted to 40 people with a KPM cadre category of 30 people and the target was both the status of mothers at risk of stunting (with the criteria of substandard arm circumference) and also mothers who had stunting clowns. This activity budget is part of community service activities with a research group service scheme with contract number 195.1/UN27.22/PT.01.03/2024.

This activity also involved a service team chaired by Dr. Winny Swastike, S.Pt., M.P, with a service team from the Animal Origin research group, Faculty of Animal Husbandry, Sebelas Maret University, Surakarta. This activity brought in resource persons from the chairman of the Indonesia chef association, Chef Hendro and assistants were also equipped with resource persons in accordance with their fields of expertise.

## RESULT AND DISCUSSION

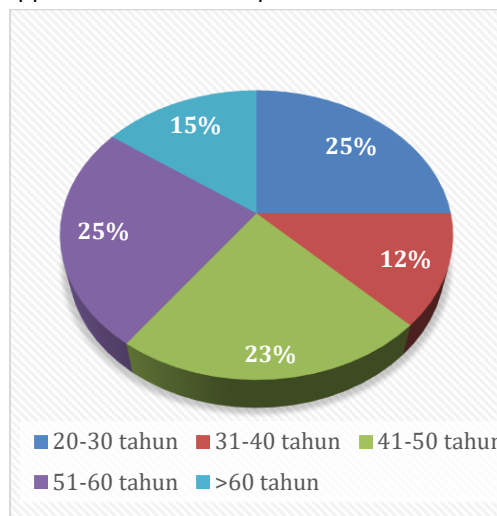
Based on BPS data [4], Kampung Sewu Village has a population in the age group of 0-4 years as many as 260 males and 239 females. The productive age population of the female gender is dominated by the type of household care work as many as 667 people, with economic status at the level of pre-prosperous families as many as 65 families, KS 1 as many as 551 families and KS 2 as many as 778 families

The service activity was attended by participants from the target and also activity partners with a total of 40 people. The activity held on July 25, 2024 was divided into several sessions which began with a questionnaire filling activity to find out the skill level of the participants as a pre-test and ended with a questionnaire with the same questions after the entire series of activities ended. The activity does not only consist of soliasing sessions but also workshops or trainings so that the capacity building of cadre skills is expected to increase both theoretically and practically.

Characteristics of respondents participating in the activity

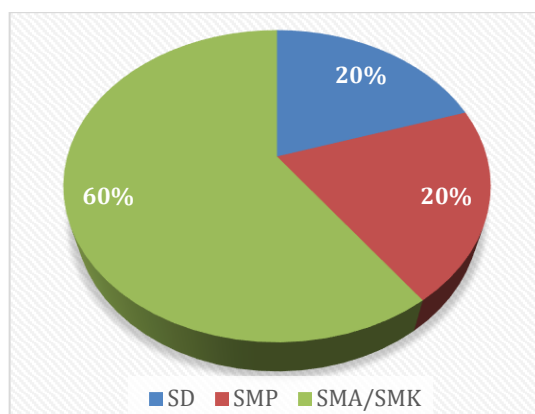
The participants of the activity consisted of 40 participants who were divided into 2 groups, namely a cadre group of 30 people and a target group of stunting groups and stunting families of 10 people, all of whom were female. The age range of 20-30 years is 10 people (25%), the age range of 31-40 years is 5 people, the age range of 41-50 years is 10 people, the age range of 51-60 years is 6 people and the age range of >60 years is 6 people (Graph 1). Based on research conducted [5] that the age of cadres does not affect performance, but in fact, motivation and long involvement in activities affect cadre skills. The largest percentage of cadres in Sewu Village is between the ages of 41 years and > 60 years. This is due to the availability of time as a volunteer, in this case acting as a cadre is a social action. It is suspected that in the age range of 25 to 40 years is the productive age so that most of them have status as workers. Based on the results of the study [6] that cadres who are members of the community who are selected, willing, able and have time to carry out

activities, so that this is in accordance with what happens in the sewu output.



**Graph 1.** Data on development cadres based on age level.

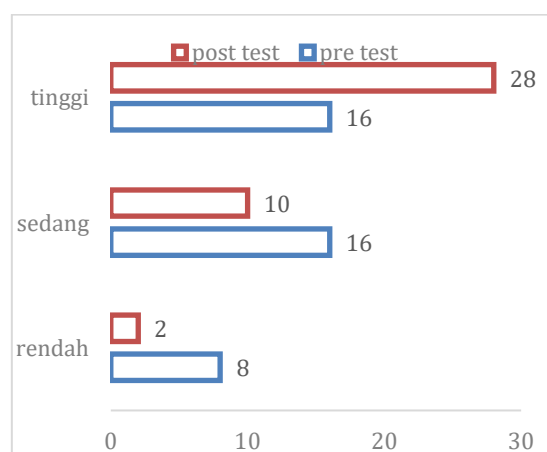
In addition to the age range, the characteristics of the respondents were also colored by differences in education levels, namely elementary, junior high and high school/vocational levels. Graph 2 shows that the dominance of high school / vocational education levels at the same level has better ability and understanding and has a positive response to this activity. The level of education also has an impact on the ease of communication during socialization and workshops.



**Graph 2.** Data on Development cadres based on education level.

Based on the research that has been conducted [7] explains that the factors that support success in providing complementary foods are knowledge,

skills, attitudes, and beliefs. Cadre skills also determine the success in providing complementary foods so as to contribute to stunting prevention. The improvement of cadre skills in Sewu Village can be seen in Graph 3 and table 1. Graph 1 shows that as many as 8 people have low skills, 16 people have medium skills and 16 people have high skills. The score was obtained from the pre-test score before the activity was held. Low scores are obtained from the number of questions answered correctly so that they have a value range of <60, medium grades with a medium category have a value range of 61-75 and have high scores with a value range of 76-100. The improvement in skills can be seen in the increase in the number of participants with a score in the range of 76-100 where before the activity only 16 people then increased to 28 people. Details of skill and knowledge improvement can be seen in table 1.



**Graph 3.** Increasing the level of cadre skills towards product diversification

**Table 1.** The impact of the activity seen from the questioner questions in the pre and post test sessions

Types of questioner questions	Pre-test session		Post test session		Impact of increased activity (%)
	Number of participants (people)	Percentage (%)	Number of participants (people)	Percentage (%)	
Basic knowledge	12	30	40	100	70
Definition of the term	10	25	36	90	65
Development materials	10	25	38	95	70
Menu diversification	8	20	40	100	80
Serving method	12	30	40	100	70
Storage methods	14	35	36	90	55

This is because participants, both partner groups and targets, have known that the storage of high-

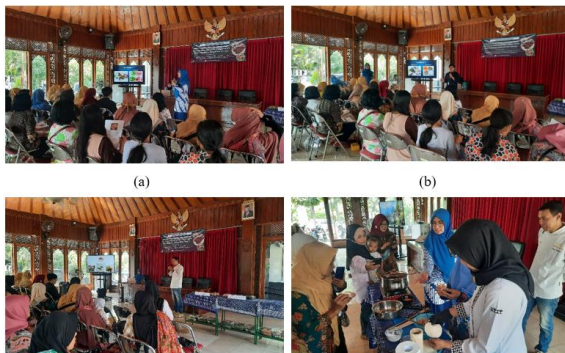
This activity has a positive impact as presented in Table 1. The best improvement in the ability represented by the questioner question in the realm of menu diversification which among others is related to the development of menu processing with cooking methods other than frying. Activities at the socialization stage provide discourse related to good processing, at the right temperature and processing method. Meanwhile, in the workshop session, processing was carried out by the method of frying on the finger snack menu which was previously smeared with flour so as to produce crispy processed which was also given skills on how to make sauce using mayonize and eggs as a complement to the sauce. In addition to enrichment, the fried processing method is also carried out steamed processing methods such as making siomay, and dimsum. The menu variations are expected to increase the appetite of both stunted sufferers, stunting risks and pregnant women who are at risk of giving birth to stunted children.

Based on the type of questions asked when the questionnaire was distributed to participants, the largest increase occurred in the type of questions about menu diversification at 80% (Table 1), while the lowest was in the type of storage method question at 55%.

protein foods is carried out at cold temperatures, both in a frozen state and in the refrigerator.

However, diversification and processing methods with various menus from 1 type of ingredient are not widely known. The delivery of workshop material by chef Hendro opened a new discourse that cooking is not only fried but can also be steamed, boiled, and even various ways of serving with the addition of sauce can enrich the diversity of the menu served.

The activities held in the sewu output can be seen in figure 2 where the activity is divided into 2 sessions which are enthusiastically attended by partners and targets.



**Figure 2.** The activity is in 2 stages in the form of socialization (a and b) and workshops (c and d)

### IMPACT OF ACTIVITIES

The training empowers women, enhancing their leadership roles in the community. Through the program, women gain valuable skills in processing nutritious food. This intervention encourages the increased consumption of protein-rich foods, particularly among children, which is crucial for their growth and development. It directly contributes to reducing stunting by improving children's nutritional intake and addressing chronic malnutrition—a key cause of stunting. The active participation of women cadres ensures strong community engagement and the long-term success of the project. The positive response and enthusiasm from participants indicate strong community support, promoting the sustainability of the initiative.

### CONCLUSION

This activity was carried out well which can be seen from the enthusiasm during the activity and also the

measurable indicators from the questioner which showed an increase in skills and knowledge. It is hoped that the participants of the socialization and workshop at the exit of Sewu can be used as a pilot in the surrounding area, so that the improvement of KPM skills is beneficial for the surrounding environment and contributes to the acceleration of the reduction of stunting rates, especially in the city of Surakarta.

### ACKNOWLEDGEMENT

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### REFERENCES

- World Health Organization (WHO). 2023. Guideline for Complementary Feeding of Infants and Young Children 6-23 months of ages. <https://www.who.int/publications/i/item/9789240081864>. Diakses 28 Januari 2023.
- Fildzah, Filsya & Yamin, Ahmad & Hendrawati, Sri. (2020). Perilaku Ibu Dalam Pencegahan Stunting Pada BADUTA. *Jurnal Keperawatan Muhammadiyah*. 5. 10.30651/jkm.v5i2.3352.
- Surat Keputusan Wali Kota Surakarta No : 140/49.8 Tahun 2022 Tentang Penentuan Lokus Stunting di Kota Surakarta.
- Tavirijanto, T. 2020. Kecamatan Jebres dalam Angka. Badan Pusat Statistik Kota Surakarta
- Marini, Ice & Prakoso, Anom & Hutagaol, Emmelia. (2023). Faktor yang berhubungan dengan kinerja kader dalam upaya pelaksanaan program posyandu balita. *Journal of Nursing Practice and Education*. 4. 16-22. 10.34305/jnpe.v4i1.815.
- Iswarawanti., D.N., 2010. *Jurnal Manajemen Pelayanan Kesehatan*, Vol. 13, No. 4.
- Pradanie, R., Rachmawati, P. D., & Cahyani, M. D. (2020). Factors Associated with Mothers' Behaviors in Selecting Complementary Feeding in Surabaya, Indonesia. *Nurse Media Journal of Nursing*, 10(3), 306-316. <https://doi.org/10.14710/nmjn.v10i3.27706>