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Initiation of *Pos Gizi* as a Community-Based Stunting Prevention

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Abstract

This community service activity is aimed at the initiation of Pos Gizi a community-based in Bajo Indah village. The method of this community service activity uses the training for Pos Gizi cadres for 3 days. The criteria for the Pos Gizi 10 cadres are: being able to read and write, availability of time, domicile, interest and motivation, and community trust. The instruments used were questionnaires and observation sheets. The cadre training stages are the preparation, implementation, and evaluation stages. Data was analyzed descriptively and statistic paired t-test. The result of community services is a nutrition post institution was formed based on the decree of the Bajo Indah village head. The Bajo Indah village Pos Gizi has a place of activity determined by the village head, namely the village office building, with meeting room facilities, a nutrition consultation room, and a mini kitchen. Each room is equipped with facilities such as tables, chairs, document cabinets, weighing equipment, and microtonal, and the mini kitchen is equipped with cooking equipment in the form of a gas stove, pan, basin, plate, spoon, glass, cutting board, knife, frying pan, and cooking pot. Pos Gizi cadre training significantly increased the knowledge and skills of cadres p <0.05 (sig.0.000). So, it can be concluded that the community service activities have formed a Pos Gizi institution and increased the knowledge and skills of cadres to carry out their duties as Bajo Indah village Pos Gizi cadres.

A. Introduction

Stunting is still a national health problem, and a major challenge in various regions in Indonesia. Stunting not only has an impact on children's physical growth, but also inhibits cognitive development and the potential of future generations, so it is important to address it comprehensively and sustainably. Since the last 5 years, handling stunting has become a national emergency, efforts to prevent and reduce Stunting have been developed through various sensitive and specific programs, but have not reached the target and there has even been an increase in prevalence in the Whasting and Underweight parameters as reported by the results of the 2022 Indonesian Nutrition Status Survey (SSGI). Based on SSGI data in 2022, the prevalence of stunting nationally decreased from 24.2% (SSGI, 2021) to 21.6%; Whasting: increased from 7.1% (SSGI, 2021) to 7.7% and Underweight increased from 17% (SSGI, 2021) to 17.1%. The prevalence of stunting in Southeast Sulawesi Province is above the national figure where the prevalence of Stunting SSGI 2022 is: 27.27%, Whasting: 8.7 and Underweight: 21.2%. For Konawe Regency, the prevalence of stunting is still above the national and provincial figures, namely: 28.3%, while the prevalence of Whasting: 6.8% and Underweight: 18.3%.

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Based on the Profile of Soropia Health Center, Konawe Regency, the stunting rate in Bajo Indah is the highest after Saponda village. Bajo Indah Village is one of the villages with a high stunting rate in Soropia District, Konawe Regency. The results of the 2023 nutritional status screening, illustrate that malnutrition and poor nutrition are still quite high, namely: out of 68 toddlers consisting of 25 males and 43 females, toddlers with poor nutritional status (36.5%) are higher than the number of toddlers with good nutrition (34.9%) and poor nutritional status (14.3%). Malnutrition in toddlers will increase the risk of stunting, and in adulthood tends to be at risk of non-communicable diseases. There have been no publications that examine the causative factors of stunting in Bajo Indah Village, but in general it is a concept that chronic malnutrition is caused directly by chronic infections and poor nutritional intake. Poor nutritional intake is closely related to eating behavior and incorrect nutritional parenting patterns in feeding.

Stunting is a pathological condition characterized by stunted physical development and growth, intelligence and the risk of becoming a degenerative health disorder in adulthood. Stunting is caused by chronic malnutrition (Simamora et al., 2019; Soliman et al., 2021). Two direct factors that cause chronic malnutrition are inadequate nutritional intake over a long period of time and/or infection. Indirect factors such as low knowledge about child care patterns, education, access to food, access to health services, access to clean water and socio-culture also contribute to the incidence of stunting (Forgie et al., 2020; Iorember, 2018). Determinant factors such as breastfeeding period, early initiation of breastfeeding (IMD), maternal education, growth monitoring and maternal age pose a risk for stunting (Bustami & Ampera, 2020; Nurdin et al., 2023). If not treated immediately, stunting can have a negative impact on a child's growth and development, both physically and mentally. Stunted children tend to have weak immune systems, are susceptible to disease, and have difficulty learning. In the long term, stunting can hinder individual productivity and have a negative impact on the country's economy.

The current health development paradigm is more focused on promotive and preventive efforts. One of the efforts to prevent stunting is to prevent washing and underweight through managing malnutrition problems resulting from Posyandu activities such as: toddler weight is on the yellow band, below the red line, more than 2 times in a row weight does not increase or is not appropriate in providing complementary breastfeeding care. These conditions are problems that are often encountered in the results of weighing activities at Posyandu and generally do not receive complete handling. This is possible due to the influence of various factors such as limited time for health service personnel, distance to the village location, limited knowledge and skills of Posyandu cadres in providing motivation and solutions (Kemenkes RI, 2022).

The establishment of a Pos Gizi is an option to overcome the above problems. A Pos Gizi is one of the forums that has been developed as a pilot project. A Pos Gizi is a community empowerment program that aims to overcome malnutrition and severe malnutrition that occurs in toddlers. Management of the Pos Gizi uses community resources with assistance from health workers. A Pos Gizi is an effort to build community independence in managing nutritional problems found in the results of activities at the Integrated Health Post. So it becomes one of the efforts to prevent stunting which is carried out through the management of malnutrition from the results of weighing at the Integrated Health Post. The results of the study showed that the establishment of a Pos Gizi was effective in increasing toddler weight with wasting.

The above conditions show that there are still many toddlers who experience chronic malnutrition in Bajo Indah Village, to overcome this problem, the community service team intervened through the establishment of a Pos Gizi and training of Pos Gizi cadres. The Pos Gizi is expected to become a center for information and nutrition services for the community, training of Pos Gizi cadres aims to increase the capacity of cadres in providing education and monitoring toddler growth. Through this activity, it is expected to reduce stunting rates and improve the quality of life of the Bajo Indah village community.

The establishment of a nutrition post is a strategic step to increase public access to nutritional information and services. The Pos Gizi container is expected to be able to become a place for appropriate nutritional education, monitor child growth regularly, and get referrals if nutritional problems are found. The Pos Gizi can be a center of information and referrals for the community in efforts to improve nutritional status. Pos Gizi cadres have a very strategic role in efforts to improve the nutritional status of the community, especially toddlers. Pos Gizi cadres as the spearhead of nutritional services at the village level, play a role in providing nutritional education, monitoring toddler growth, and providing referrals if necessary. However, to carry out their role optimally, Pos Gizi cadres need ongoing training.

As a nutritionist, I see the initiative to establish a Pos Gizi as a very strategic step in efforts to prevent stunting. The Nutrition Post not only functions as an information center, but also as a forum for the community to interact directly with health workers and get support in meeting children's nutritional needs.

The results of this community service have very significant implications for the development of science and the profession of Nutrition. First, the data obtained from this activity can be used for further research on the factors that influence the prevalence of stunting in Bajo Indah Village. With a deeper understanding, more targeted interventions can be developed. Second, the experience in managing the Nutrition Post provides valuable learning for the community service workers, so that they can develop effective and efficient intervention models, and identify challenges that are often faced in efforts to prevent stunting at the community level. This knowledge can be utilized by colleagues and become the basis for developing similar programs in other areas.Third, through this activity, networks can be built with various related parties, such as the government, non-governmental organizations, and the private sector. This cross-sector collaboration is very important to achieve success in efforts to prevent stunting.

Overall, the activity of establishing this Pos Gizi not only provides direct benefits to the community, but also contributes to the development of science and the profession of nutrition in Indonesia.

This community service aims to improve the knowledge and skills of cadres, so that they can carry out their role as Pos Gizi cadres in providing services to malnourished toddlers in Bajo Indah village.

B. Methods

Community service activities are to form a Pos Gizi institution in Bajo Indah village, Soropia sub-district, Konawe regency, Southeast Sulawesi. The method used is participatory action research (PAR). This community service activity uses a partial participation approach. Participants involved in this activity are regional heads, village heads, heads of health centers and nutrition implementing staff, midwives, health promotion, Bajo Kekar NGO, Bajo Bangkit NGO and Poltekkes Kemenkes Kendari. This community service program is part of the national superior community service program. The implementation of the activity involves students from the Nutrition, Midwifery, Medical Laboratory Engineering and Nursing departments.

This activity was carried out in 2020 in Bakjo Indah village. The target of this activity is the Bajo Indah village community. The flow of stages of community service activities is described as follows**:**

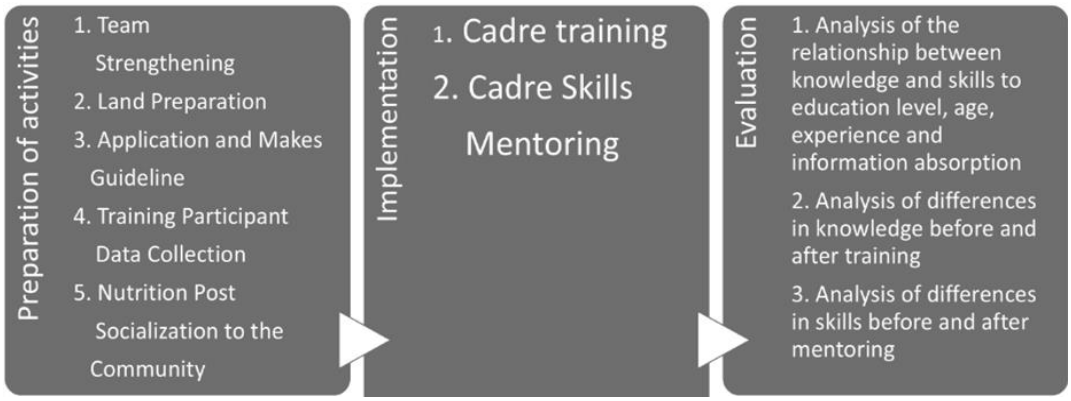


Figure 1. Flow of activity stages

Preparation

a) Conducting an internal meeting of the community service activity team consisting of implementing lecturers and students. This meeting aims to align the perceptions of team members. The meeting discusses in detail the flow of activities, preparation and division of tasks for each team member.
b) Carrying out the provision of activity materials in the form of design and creation of a Pos Gizi application into the TETOY application, preparation of Pos Gizi guidelines, design and printing of leaflets, and preparation of nutritional status measuring instrument facilities, mini kitchens and document cabinets including preparation for renovation of the Pos Gizi building. The images contained in the Pos Gizi guidelines for this community service activity are ordered separately, which show the original guidelines.
c) Preparing the activity land. Land preparation is carried out by meeting with the Head of the Soropia sub-district, Village Head and Figures, regarding the activity plan. The purpose of land preparation is to gain political support for the activity with the hope that the activity can continue (sustainable).

d) Technical preparation is intended to check that all materials to be used in the activity are available and can be used, including the Pos Gizi institutional decree, completion of building renovation.
e) Preparing participants. Personally, the team approached village cadres who were ready to carry out duties as Pos Gizi cadres. The selection of participants was supported by the Village Head and Village Figures. From the results of this activity, 10 cadres were identified who would be trained as Bajo Indah village pos gizi cadres. The criteria for cadres selected are: being able to read and write, availability of time, domicile, interest and motivation and community trust.
f) The village-level meeting was aimed at socializing the activities and existence of the pos gizi so that it could be utilized by the community. The village-level meeting was also to confirm the pos gizi cadres carried out by the village head.

Implementation

a) Training of nutrition post cadres is conducted for 3 days. Training materials include:
   1. Pos Gizi: definition, objectives, activities
   2. Nutritional problems: nutritional problems in toddlers, pregnant women and breastfeeding mothers
   3. Anthropometric measurements: How to calculate a child's age, procedures for measuring weight, height and upper arm circumference
   4. Monitoring child growth: meaning of colors in the KMS graph, indicators of normal child growth, child weight not increasing, weight below the red line, KMS based on gender,
   5. Balanced nutrition: contents of my plate based on gender and age, feeding patterns for children, and provision of complementary foods for breast milk.
   6. Additional food: definition, objectives, requirements, targets, how to provide, composition, implementation and local additional food.
b) Assistance for nutrition post cadres in the form of:
   1. Accompanying cadres in the practice of identifying nutritional problems from the results of posyandu weighing and identifying toddler participants who will be referred to the nutrition post from the posyandu weighing data.
   2. Assisting cadres in the practice of identifying possible causes of malnutrition in toddlers, by visiting families and exploring food problems and medical history in the past month.
   3. Assisting cadres in the practice of processing food according to children's needs using local ingredients and the availability of food ingredients in the community in the concept of isi piringku.
   4. Assisting cadres in the practice of processing additional food from local food ingredients based on sea urchin gonads

Evaluation

Evaluation of activities is carried out at the preparation stage, implementation of activities and achievement of the objectives of community service activities. Evaluation of activity achievements using data. The data collected includes: the institution of the nutrition post using the nutrition post cadre is measured using the observation method, knowledge is measured using a pre-post test with a Likert scale and skills are measured using the pre and post observation method using case simulations. The instrument used to measure the institution of the Nutrition Post uses the institutional requirements form for the nutrition post, knowledge uses a questionnaire test containing questions about training materials and cadre skills using the nutrition post cadre skills observation sheet instrument. The institution of Nutrition Post was analyzed descriptively, knowledge and skills data were analyzed using a correlation test between knowledge and skills variables to the variables of Education Level, age and experience of cadres using correlation and average difference tests; to measure the effect of training on participants' knowledge and skills using paired t-test.

C. Result and Discussion

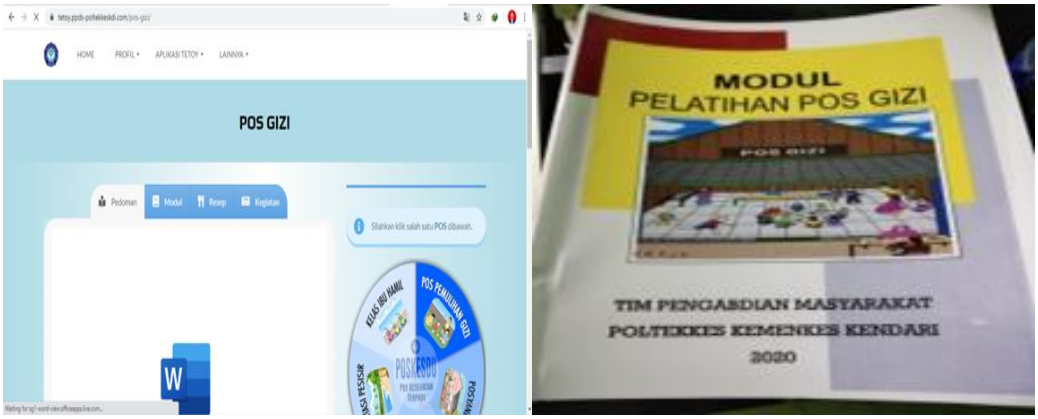
Geography of Bajo Indah Village

Figure 2. Geography of Bajo Indah Village (Source: zonasultra.id)

Geography of Bajo Indah Village is a coastal village, where the community settlements occupy along the coast (above the sea) with houses lined up along the shoreline. The livelihoods of 99% of the population are fishermen and housewives generally help the head of the family prepare the fish they catch for sale. The education of the head of the family is mostly junior high school graduates and the education of the housewives is mostly elementary school graduates. The language used in social interaction is Bajo. Each house is occupied by more than one head of family, so the number of members in each house is more than 5 people. Public transportation to connect between villages or around the village uses private motorbikes and car transportation vehicles that operate in the morning and evening, other transportation is motorcycle taxis.

Establishment of Pos Gizi

The Pos gizi institution in Bajo Indah village has been formed, strengthened by the Decree of the Head of Bajo Indah Village, which is implemented by 10 (ten) pos gizi cadres. The Pos gizi has a building where activities are carried out, namely the Village office building which has been renovated into an integrated health post activity center, including the pos gizi. The building is equipped with a meeting room, a nutrition consultation room and a mini kitchen. The meeting room has facilities for long tables and chairs. The nutrition consultation room has facilities for document cabinets, weighing devices, height measuring devices and upper arm circumference measuring tapes. The nutrition post has an activity application included in the TETOY application, cadre training modules and leaflets.



(a) Nutrition Post Application (b) Nutrition Post Cadre Training Module

Figure 3. Nutrition Post Cadre Training Application and Module

Pos Gizi is a forum for community empowerment to overcome various problems of malnutrition disorders with management by the community with assistance from health workers. Pos Gizi standards refer to malnutrition recovery posts. Pos Gizi are one of the efforts to support health-oriented development Health

in All Policies (HiAPs, where the community is also responsible for overcoming the problem of stunting which is the focus of national development.

Pos Gizi is a family and community-based nutrition program to overcome children at risk of malnutrition. Nutrition posts have been chosen in many areas to overcome the problem of malnutrition and are an effective forum for improving community and family-based malnutrition problems (Nur R et al., 2020; Sari et al., 2023).

The pos gizi application was created in this community service activity to answer the needs of the community regarding the use of technology that has entered the lives of village communities. The nutrition post application contains nutrition post guidelines, nutrition post activities, information related to nutrition problems in the village and Q & A, to make it easier for cadres to ask the application administrator regarding the nutrition problems found to carry out the role of cadres optimally. The nutrition guidelines explain what a nutrition post is, the purpose of a nutrition post, the role and responsibilities of nutrition post cadres, knowledge and skills of cadres related to measuring weight, height, upper arm circumference, determining the age of toddlers, giving meaning to weighing results, and using the concept of my plate. The Bajo Indah village nutrition post which has been equipped with a building, equipment, human resources and applications is expected to be one of the solutions to dealing with stunting.

Proper feeding can improve malnutrition in toddlers, and is one of the risk factors for stunting. The nutrition post application contains information about healthy food made in the form of short videos that can be accessed by the general public, including mothers of toddlers who have malnutrition problems, so that they can learn independently (Drammeh et al., 2019; Hasibuan et al., 2019).

The Bajo Indah community has a Positive deviance to overcome the problem of protein deficiency in toddlers. The application contains good habits of the community in choosing local food ingredients such as sea urchin gonads which can be an alternative to overcome protein deficiency in toddlers' menus (Astuti et al., 2020; Wirali et al., 2017).

Carateristics, Knowledge and skills

The characteristics of training participants are described in table 1

Table 1. Characteristics of nutrition post training participants

Characteristics	n	%
Education		
Elementary school	2	20
Junior high school	3	30
Senior high school	5	50
Age (years)		
Young adults (<25 years)	9	90
Old adults (≥25 years)	1	10
Cadre experience		
Has cadre experience	5	50
Does not have cadre experience	5	50
Total	10	100

The implementation of Nutrition Post Cadre Training aims to improve knowledge and skills in implementing nutrition posts. The results of measuring the knowledge of nutrition post cadre training participants are presented in the following table.

Knowledge

The knowledge measured in the nutrition post cadre training includes the following materials:

1. Pos Gizi: definition, objectives, activities
2. Nutritional problems: nutritional problems in toddlers, pregnant women and breastfeeding mothers
3. Anthropometric measurements: How to calculate a child's age, procedures for measuring weight, height and upper arm circumference
4. Monitoring child growth: meaning of colors in the KMS graph, indicators of normal child growth, child weight not increasing, weight below the red line, KMS based on gender,

5. Balanced nutrition: contents of my plate based on gender and age, feeding patterns for children, and provision of complementary foods for breast milk.
6. Additional food: definition, objectives, requirements, targets, how to provide, composition, implementation and local additional food.

Table 2. Presents the results of the analysis of training participants' knowledge

Estimated Distribution Parameters								
		Pre-test Cadre Skill for determine the age of the child under Five	**Post-Tes Cadre Skill for determine the age of the child under Five**	**Pre-test Cadre Skill for determine the success of weighing**	**Pre-test Cadre Skill for determine the success of weighing**	**Level of education**	**Years**	**Experience as a village cadre**
Normal Distribution	Location	1.50	2.16	1.50	2.17	.76	3.16	3.16
	Scale	.118	.057	.118	.050	.440	.312	.312
The cases are unweighted								

Normally distributed data where the p value > 0.05, the results show that a paired t-test can be performed.

Table 3. Distribution of knowledge of nutrition post training participants

Knowledge Measurement	**n**	**Knowledge test scores (mean±SD)**	**Sig***
Pre-test	10	2,40 ± 0,699	
Post-test	10	7,90 ± 0,568	0,000

**) paired t-test*

Skills

The skills measured in the nutrition post cadre training include: measuring toddler weight, measuring height, measuring upper arm circumference, determining toddler age, giving meaning to weighing results on the healthy card (KMS) and the concept of my plate. The following are the results of pre-post test observations of participant skills.

Table 4. Distribution score of skills in measuring body weight

Knowledge Measurement	**n**	**Skills test scores (mean±SD)**	**Sig***
Pre-test	10	4,20 ± 0,422	
Post-test	10	9,80 ± 0,422	0,000

**) paired t-test*

Table 5. Distribution score of skills in measuring height

Knowledge Measurement	**n**	**Skills test scores (mean±SD)**	**Sig***
Pre-test	10	4,60 ± 0,516	
Post-test	10	9,90 ± 0,316	0,000

**) paired t-test*

Table 6. Distribution score of skills in measuring upper arm circumference

Knowledge Measurement	**n**	**Skills test scores (mean±SD)**	**Sig***
Pre-test	10	4,30 ± 0,483	
Post-test	10	9,90 ± 0,316	0,000

**) paired t-test*

Table 7. Distribution score of skills in determining the age of toddlers

Knowledge Measurement	n	Skills test scores (mean±SD)	Sig*
Pre-test	10	4,50 ± 0,527	
Post-test	10	8,70 ± 0,483	0,000

**) paired t-test*

Table 8. Distribution score of skills gives meaning to the weighing results in KMS

Knowledge Measurement	n	Skills test scores (mean±SD)	Sig*
Pre-test	10	4,50 ± 0,527	
Post-test	10	8,80 ± 0,422	0,000

**) paired t-test*

Table 9. Distribution core of skills in determining toddler needs using the concept of filling my plate

Knowledge Measurement	n	Skills test scores (mean±SD)	Sig*
Pre-test	10	3,20 ± 0,422	
Post-test	10	9,60 ± 0,516	0,000

**) paired t-test*

Pos Gizi activities can be carried out with the availability of cadres who have adequate knowledge and skills. Cadres are an important resource to pay attention to, cadres can carry out the objectives of establishing a pos gizi. Cadres are mediators or change agents who play a role in motivating and providing solutions to families in their area. Cadres have different knowledge, factors that influence knowledge and skills are education level, age, access to information and ability to absorb information. Education level provides an opportunity to have the ability to understand facts and analysis, but other factors can dominate someone to have better analytical skills and understand facts in low education, because they are influenced by factors of access to information and more intensive discussion skills from the environment. The age aspect is related to the amount of information obtained from life experiences when interacting with the environment, generally older ages have better analytical skills and mastery of facts. Aspects of access to information can be known from the experience of being a village cadre or the use of information sources such as electronic, print or social media. Training participants who have experience as cadres are 5 (five) people, including posyandu cadres and 5 (five) others have never been village cadres. The results of the correlation test (r) showed that there was a significant relationship ($p < 0.05$) in the aspects of education, age and experience, but the results of the ANOVA difference test showed that there was no significant difference in the education, age and experience factors on the pre-test knowledge and skills of the participants (Sambriong et al., 2023).

Cadre training was conducted to improve cadre knowledge and skills on nutrition issues, how to determine nutrition issues, and seek information on the main causes related to the incidence of nutritional disorders in toddlers in their area. The nutrition post cadre training was conducted for three days, and continued with cadre skills mentoring. The absorption capacity of training participants showed no significant difference in education, age, and experience $p > 0.05$ but there was an increase in knowledge before and after training as shown by the results of the paired t-test where $p<0.05$. The Nutrition Post cadre training is designed to improve knowledge and skills in managing nutrition posts. This improvement process is based on constructivism theory, where participants actively construct new knowledge through structured learning experiences. In addition, social learning theory is also relevant, because participants learn through observation and imitation of instructor behavior. Previous research results have shown that effective training can improve the knowledge of Posyandu cadres about nutrition, as well as their skills in providing counseling and conducting anthropometric measurements. Thus, training is expected to improve the quality of Posyandu services and ultimately have a positive impact on the nutritional status of the community (Liputo et al., 2023; Sambriong et al., 2023).

The implementation of this community service activity is inseparable from various obstacles and limitations in achieving the objectives of the activity, several factors faced in the implementation of the activity, such as limited participants, participants are housewives, so that training activities are carried out after participants have completed their family affairs, this causes the activity time cannot be carried out for a full day. The diverse levels of education of participants mean that the delivery of materials must be adjusted

and requires more time. Limited access to the internet and information technology at the training location makes it difficult to utilize online learning resources and communicate with participants.

D. Conclusion

The training of Nutrition Post cadres can significantly increase knowledge by 5.5 points (2.40 ± 0.699 to 7.90 ± 0.568) and skills by 5.6 points (4.20 ± 0.422 to 9.80 ± 0.422), so that it is expected that the nutrition post that is formed can run optimally to carry out activities as a nutrition post cadre in Bajo Indah village.

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