

Public Education on Stunting Prevention as an Effort to Produce Healthy Generation in Singkawang

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Abstract

Health problems related to nutritional status in children are still a global challenge, especially in developing countries, including Indonesia. Stunting is a condition where children under five experience malnutrition, which can be fatal to children's health, especially in the early days of life. West Kalimantan is one of the 12 provinces with the highest stunting cases in Indonesia in 2022, with the stunting prevalence rate at 27.8 percent. An educational activity was carried out to improve knowledge and understanding as well as community participation in stunting prevention and early detection programs in toddlers which are expected to directly motivate the community to participate in paying attention to the growth and development of their children so that their growth and development can be optimal. The target of this educational activity is parents of pre-school aged children. This service activity goes through three stages, namely the preparation stage, the implementation stage and the evaluation stage. In the preparation stage, the issue of public awareness of stunting was raised as a theme, targeting parents in Singkawang City. At the implementation stage, the service team collaborates with the Anugrah Clinic to provide socialization regarding stunting prevention to participants. At the evaluation stage, a post test was carried out to find out the extent to which the activity left impact. As a result of this service activity, it can be concluded that stunting is still an important issue or problem experienced by the people of West Kalimantan, including Singkawang. This is shown by the high prevalence of stunting and the low awareness and knowledge of the community, especially parents, about the dangers, causes and ways to prevent stunting early.

Keywords: *stunting; pre-school children; community service; Singkawang*

INTRODUCTION

Health problems related to nutritional status among children still pose a global challenge, especially in developing countries, including Indonesia. Indonesia encounters a challenge related to the high number of malnutrition cases: a condition where children under five experience a lack of nutrition. Malnutrition is a nutritional disorder that can have fatal consequences for the health of children, especially in their early life period. If this situation is not properly addressed, it will cause negative impacts on their growth and can lead to further problems, such as stunting. A child is said to be malnourished if the z-score value of their body weight per age (BW/U) is between -3 SD to -2 SD (Black et al., 2013; Muller & Krawinkel, 2005). Adequate nutrition, especially in the first 1,000 days of life, is one of the main keys to preventing stunting in children. The problem of stunting is a condition of failed growth and development experienced by children due to a lack

of nutritional intake for a long time, repeated infections and inadequate psychosocial stimulation, especially in the first 1,000 days of life. However, the prevalence of stunting in Indonesia is still very high today. Based on the most recent results of the Indonesian Nutrition Status Survey (SSGI) 2023, the prevalence of stunting cases in Indonesia is 21.6 percent in 2022 (Indonesian Ministry of Health, 2023), showing a decrease from 24.4 percent in 2021, yet still very high since the government set the target of 14 percent in 2024. This figure is also still considered high when compared to the 20 percent threshold set by the World Health Organization (WHO).

West Kalimantan is one of 12 provinces with the highest stunting cases in Indonesia in 2022. The stunting prevalence rate in West Kalimantan province is at 27.8 percent (SSGI, 2022). This rate is classified as high category according to WHO, namely 20 – 30 percent. Based on the distribution of cities/districts in West Kalimantan, high cases of stunting are recorded in Melawi Regency, Kapuas Hulu Regency, and Sekadau Regency with a prevalence of 44.1, 37.9, and 35.5 respectively. Then, it is also reported that 12 districts/cities have yellow status with a prevalence (an indicator measuring the percentage of children under five whose height is below the average height of the reference population) of 20 to 30 percent—all higher than the national prevalence of 21.6. There are only two districts/cities in West Kalimantan that have yellow status or below 20 percent, namely Pontianak City and Sintang Regency. To be in line with the national target of reducing the stunting rate by 14 percent, the rate of reduction in stunting per year must be in the range of 3.4 percent.

A study conducted by Indriyani et al. (2018) found that the incidence of stunting in West Kalimantan, especially Pontianak, was influenced by several variables, namely family income when the mother was pregnant, the number of children, the height of the pregnant woman, health of the pregnant woman, family support, education when the mother is pregnant, and adequate nutritional needs during pregnancy. Another study from Hariyadi and Ekayanti (2012) supports this finding by arguing that households with poor nutritional awareness behavior are proven to increase the risk of stunting in West Kalimantan. Parental knowledge is believed to be an important factor in efforts to reduce stunting prevalence, since there have been findings demonstrating misunderstanding among mothers regarding the causes of stunting—hereditary instead of nutritional (Hall et al., 2018). This lack of knowledge often leads to poor feeding and parenting practices that take child's growth for granted, and this continues until pre-school ages (Yunitasari et al., 2021). These findings are in line with several other studies on stunting which highlight the importance of parental knowledge and education on the prevention of stunting to decrease the prevalence of stunting, especially among pre-school children (Astarani et al., 2020; Sari, 2021). Against this backdrop, a community development program was planned and initiated to deliver educational activities to the community on the prevention of stunting. The location selected was Singkawang city in West Kalimantan, with targeted participants of parent communities of pre-school children in the city. Upon the completion of the program, it is expected that the parental knowledge on stunting prevention can increase and will subsequently decrease the prevalence of stunting cases in Singkawang city.

METHODS

The strategy used to achieve the expected result above was through community service. The program was carried out for 3 months starting from October to December 2023 with the following stages:

- *Preparation Stage*
During this stage, team members first held internal discussion to agree on theme, location, target audiences, and schedule of the program. We then observed the targeted location of

the program and discussed the theme and plan of actions with potential partners and stakeholders in Singkawang. We decided to partner with Anugerah Clinic and Anugerah Kindergarten, located in Northern and Central Singkawang (see Figure 1 below), which have been known for its health service and facilities among surrounding communities. After the survey, we also held final internal discussion to prepare the rundown, persons-in-charge, activity tools, evaluation methods, and souvenirs for program participants.

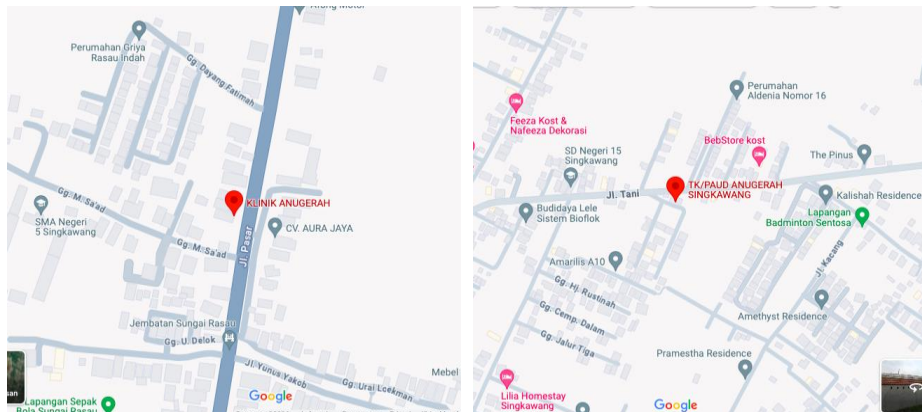


Figure 1. Locations of Anugerah Clinic (left) and Kindergarten (right)

- *Implementation Stage*
The main activity of the program was held on October 6, 2023 in Anugerah Clinic, Singkawang. The audience was parents of pre-school children. The program was started with introductory speech by the representative of team members, who explained the background and objectives of the community development program. It was then followed by the main activity, that is the delivery of presentation on how to prevent stunting among children, by Firda Permatasari, a health cadre in Anugerah Clinic. In the end of the activity, questions and answers session was conducted and the program was officially ended with the distribution of souvenirs to audiences.

- *Evaluation Stage*
The implementation of this stage adopted the Kirkpatrick model stage 2: learning (Kirkpatrick, 2015) as a useful training evaluation method. The acquired knowledge by participants during the training activities is considered important to measure to know whether the objectives of training are achieved. We conducted this evaluation in the form of pre-test and post-test which were conducted to audiences before and after they listened to the presentation delivered. The tests comprised of 20 true or false statements (the exact same statements for pre- and post-test), as demonstrated in Figure 2 below. The total amount of true answers for each pre-test and post-test were then calculated and compared using Microsoft Excel. This evaluation method is a quite common tool to assess whether the information provided during the program is well received and understood by the audiences or participants. The program or activity can be considered successful if true answers in post-test outnumbered the pre-test—meaning that an enhanced knowledge is observed among participants.

Table 1. Pre-Test and Post-Test Model

No.	Statement	Answer	
		TRUE	False
1	Stunting is a growth disorder due to long-term malnutrition, especially during the first 1,000 days of life.	TRUE	False
2	Stunting only becomes visible when a child is under 2 years old.		
3	Poor maternal caregiving practices can cause stunting.		
4	Lack of access to clean water and environmental sanitation can be a cause of stunting.		
5	Children who are shorter than others their age exhibit signs and symptoms of stunting.		
6	Children who experience stunting are at risk of becoming overweight as adults.		
7	Exclusive breastfeeding (feeding only breast milk from birth to 6 months without any additional food) can prevent children from stunting.		
8	Monitoring the growth of toddlers at health centers is a strategic measure to detect growth disorders early.		
9	Practicing clean and healthy living (PHBS) can prevent stunting.		
10	Supplemental Feeding (PMT) programs for toddlers should be implemented to prevent stunting.		
11	Lack of maternal knowledge about health and nutrition before and during pregnancy, and after childbirth, can be a cause of stunting.		
12	Children who experience stunting as adults are more likely to suffer from non-communicable diseases like hypertension, heart disease, diabetes, cancer, etc.		
13	Lack of healthcare services for mothers during pregnancy (ANC) can be a cause of stunting.		
14	The first 1,000 days of life, including 270 days during pregnancy and the first 730 days after birth, are a critical golden period that determines a child's quality.		
15	Nutritional deficiencies during the first 1,000 days of life have permanent effects and are difficult to reverse.		
16	Stunting prevention can be achieved by meeting nutritional needs from pregnancy until the child is two years old.		
17	In the long term, stunting affects children's academic performance.		
18	Stunting cannot be cured. However, it can be prevented.		
19	Complete basic immunizations for infants and children can prevent stunting.		
20	Stunting can be corrected after a child is born.		

RESULTS AND DISCUSSION

This community service program generally lasts for two months, starting from the preparation stage in September, core activities in October, and the evaluation and reporting stage in November 2023.

As explained above, the community service was delivered to parents of pre-school children regarding the knowledge on stunting prevention. The main activities were carried out at Anugerah Kindergarten (TK) in Sekip Lama Village, Central Singkawang District, Singkawang City. The selection of the theme was based on the existing research findings on the importance of parental role in stunting prevention and is also in line with Singkawang municipality's program, which is called the Stunting Parent Care Program (*Program Orang Tua Asuh Anak Stunting*) policy (Singkawang Government, 2023). This program allows Singkawang society to contribute reducing stunting prevalence by donating to government healthcare units in delivering food supplementation and routine children' growth measurement, particularly among children with stunting. Meanwhile, the selection of the school as the program venue was based on the consideration that Anugerah Kindergarten is located in a quite strategic place, and is a place of learning for children under five, who are very vulnerable to health problems, including the

problem of stunting. Besides, this kindergarten has only been established for approximately 2 years old but has a lot of students compared to other kindergartens in the city of Singkawang. Sekip Lama sub-district was chosen because the condition or prevalence of stunting in this sub-district was quite high compared to other sub-districts in Singkawang city, namely 12.22%. Parents of students in Anugerah Kindergarten and other local residents in Sekip Lama sub-district were the main beneficiaries and participants of the program.

The main activities were carried out on October 6, 2023, started with registration where participants filled out the attendance form. In total, 15 participants joined the community service program. The opening ceremony of the program began with prayers, followed by opening speeches by the Head of the Department of Public Administration, Faculty of Social and Political Sciences, Universitas Tanjungpura, Dr. Ira Patriani, and the chairman of the Anugerah Kindergarten Foundation, Drs. H. M. Nadjib—see Figure 2 below.



Figure 2. Opening of educational activities by the team leader

Before the main session was delivered, the team members conducted pre-test to all participants as a form of evaluation. The questions asked were regarding what stunting is, the dangers of stunting and how to overcome stunting. The purpose of this pre-test is to identify the initial level of participants' knowledge regarding the stunting problem.



Figure 3. Delivery of presentation by the presenter

After the pre-test was carried out, the presentation of material related to stunting and its prevention efforts was given by a health worker in Anugerah Clinic, Ms. Firda Permatasari—see Figure 3 below. During this session, she explained in details what stunting is and several factors that cause it, how to detect stunting in children through the child's growth profile, how to overcome stunting in children, the important role of breast milk and nutritional balance in children's dietary intakes, and examples nutrient-rich foods that are easily available to parents. The speaker used a storytelling techniques in her presentation by utilizing attractive slides and images to catch participants' attention and make the materials easier to understand (Katuscakova & Katuscak, 2013).

After completing the main session, in the end we conduct the post-test to identify the changes of knowledge before and after being educated during the presentation session. Below diagram shows the enhanced level of knowledge among participants observed from their answers in post-test:

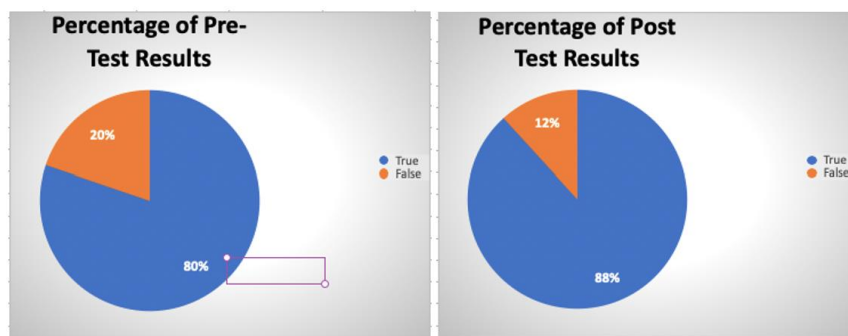


Figure 4. Percentage of pre-test (left) and post-test results among program participants

From the test results above, it can be concluded that many participants have gained improved understanding regarding stunting. Most participants obtained information about stunting through social media, while other obtained it from health education workers. There was an increase in understanding of stunting after listening to the presentation, particularly regarding the importance of preventing stunting. This result marks an achievement of the program's main objective: to increase parental knowledge regarding stunting prevention, in line with the evaluation method set by Kirkpatrick (2015).

At the end of the activity, we gave a plaque to the head of the TK Anugerah Foundation, in this case given by the Head of the Department of Administrative Sciences, Faculty of Social and Political Sciences, Universitas Tanjungpura, as a token of appreciation for the collaboration in community service activities held at Anugerah Kindergarten, and ended with a photo session between the presenters, program team, and the participants.— see Figure 5 below.



Figure 5. Group photo with participants and presenter

As many studies have shown, the role of parents, especially mothers, are very important in ensuring child's growth and development. Hashim, et al (2022) emphasize the impacts of parent's meal preparation to the controlling of food habit, food intake, physical activities, selection of the nutritious food and food safety and sanitation from home. It is expected that the acquisition of good knowledge will lead to changing behaviors and attitudes as well. However, this expectation surely contingents upon other factors as well, such as financial, parents' level of education, and also family culture (Wiliyanarti et al., 2022; Laksono et al., 2022).

CONCLUSION

Based on community service activities in the form of stunting prevention education which was carried out at Anugerah Singkawang Kindergarten on October 6, 2023, it can be concluded that stunting is still an important issue or problem experienced by the residents of West Kalimantan, including Singkawang. This is shown by the still high prevalence rate of stunting and the lack of awareness and knowledge among residents, especially parents, regarding the dangers, causes and ways to prevent stunting from an early age. The educational activities carried out by program team in collaboration with Anugerah Clinic and Kindergarten in Singkawang City according to a community service method. The program was well-received with a very positive response from the community. The public, in this context, the parents of pre-school-aged children, understands the dangers of stunting and how to overcome it, in hopes that they become more aware and careful in providing proper nutritional intakes and maintaining the growth of their children. This is demonstrated by the results of the pre- and post-tests carried out during the community service program.

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