

IMPLEMENTATION OF BALANCED NUTRITION EDUCATION FOR PREGNANT WOMEN IN AN EFFORTS TO PREVENT STUNTING IN BLANG ASAN VILLAGE, PEUSANGAN COMMUNITY HEALTH CENTER WORKING AREA, BIREUEN REGENCY

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Abstract

This community service activity was carried out in Blang Asan Village, the working area of the Peusangan Health Center, Bireuen Regency, with the aim of improving the knowledge, attitudes, and skills of pregnant women, breastfeeding mothers, and mothers of toddlers in implementing balanced nutrition as an effort to prevent stunting. This activity was motivated by the continued discovery of nutritional problems in the community, such as low knowledge about balanced nutrition, consumption patterns that are not yet diverse, and the continued presence of mothers at risk of Chronic Energy Deficiency (CED). The method of implementing the activity included lectures, interactive discussions, demonstrations, and direct practice. This activity was attended by 45 participants consisting of pregnant women, breastfeeding mothers, and mothers of toddlers. Evaluation was carried out through pretests and post-tests to measure the increase in knowledge, as well as measuring the Upper Arm Circumference (MUAC) to determine the nutritional status of participants. The results of the activity showed a significant increase in knowledge, where the good knowledge category increased from 22.2% to 66.7%. In addition, as many as 75.6% of participants showed a positive attitude towards the implementation of balanced nutrition. The results of nutritional status measurements showed that 93.3% of participants were in the normal category, while 6.7% were at risk of KEK. The level of participant participation was also relatively high, with 80.0% of participants actively participating in all series of activities. This activity had a positive impact in increasing public understanding and awareness of the importance of balanced nutrition. Thus, community-based nutrition education carried out in a participatory and applicable manner can be an effective strategy in supporting stunting prevention efforts, especially in rural areas.

Keywords : Education, Balanced Nutrition, Stunting, Pregnant Women.

INTRODUCTION

Stunting remains a serious public health problem in Indonesia, particularly in areas with lower to middle socioeconomic status. Stunting not only impacts a child's physical growth but also affects cognitive development, productivity, and the quality of human resources in the future. Therefore, efforts to prevent stunting must be carried out early, especially during pregnancy as a critical period in the life cycle. Pregnancy is a crucial phase that determines the quality of maternal and fetal health. During this period, nutritional needs increase significantly to support fetal growth and development. If nutritional needs are not optimally met, pregnant women are at risk of experiencing Chronic Energy Deficiency (CED), anemia, and other pregnancy

complications that can impact the baby , such as low birth weight (LBW) and stunting (Darwin , Yulianti , and Safrillah 2025) .

The concept of balanced nutrition , promoted by the Ministry of Health, emphasizes the importance of consuming a variety of foods , maintaining a clean lifestyle , physical activity , and monitoring nutritional status . However , in practice , the implementation of this principle in society is still suboptimal . Many pregnant women do not yet understand the importance of dietary variety , particularly the consumption of animal protein , vegetables , and fruit , which are essential during pregnancy . This condition is also influenced by various factors , such as education level , nutritional knowledge , eating habits , and family economic conditions . In rural areas , including Blang Asan Village, limited access to health information and consumption patterns based on local customs present challenges in implementing balanced nutrition (Martony 2023).

Geographically , Blang Asan Village is one of the villages in Peusangan District , Bireuen Regency , Aceh Province . This village consists of several hamlets and is characterized by a community that mostly works in the informal sector such as agriculture and laborers , which is highly dependent on the family's economic condition . Based on data from the Central Statistics Agency of Bireuen Regency , the Peusangan District area consists of several villages with varying population numbers , generally ranging from hundreds of people per village . This condition indicates that this area has a significant population density , thus requiring targeted public health interventions , especially in the field of maternal and child nutrition . In addition , the characteristics of villages in the Bireuen area generally show that the majority of the population works as farmers or informal workers with relatively low income levels . This condition has an impact on the ability of families to meet the need for nutritious food , including for pregnant women who require higher nutritional intake than their normal conditions . normal (Bireuen Health Office , 2024).

Based on these issues , a concrete effort is needed through community service activities in the form of balanced nutrition education for pregnant women . This activity is expected to increase knowledge , awareness , and change the behavior of pregnant women in meeting their nutritional needs , thereby reducing the risk of KEK and contributing to stunting prevention in Blang Asan Village , within the working area of the Peusangan Community Health Center , Bireuen Regency .

Based on the results of field identification and its findings, Blang Asan Village, as a partner in community service activities , still faces various problems in the field of nutrition , particularly among pregnant women , breastfeeding mothers , and mothers with toddlers . These problems include the following :

1. Low level of knowledge about balanced nutrition . Most mothers do not yet comprehensively understand the concept of balanced nutrition , including the importance of food variety , nutritional needs during pregnancy and breastfeeding , and its relationship to preventing stunting.
2. Consumption patterns that do not meet the principles of balanced nutrition . People's diets are still dominated by carbohydrates , with relatively low consumption of animal protein , vegetables , and fruit . This results in suboptimal nutrient intake .

3. There are still mothers at risk of Chronic Energy Deficiency (CED). Based on nutritional status measurements, there are still mothers who have an Upper Arm Circumference (MUAC) < 23.5 cm, which indicates a risk of CED and has the potential to impact the health of the mother and fetus.
4. Lack of utilization of local food as a source of nutrition. Blang Asan Village has quite good local food potential, but it has not been utilized optimally to meet the nutritional needs of families, especially for pregnant women and toddlers.
5. The influence of socio-cultural factors on eating patterns. Eating habits that are passed down from generation to generation as well as certain food taboos for pregnant women still influence consumption patterns, thus limiting the nutritional intake that should be obtained.
6. Limited access to nutritional information and education. Nutrition counseling carried out by health workers and cadres is still not optimal and has not reached all targets in a sustainable manner.
7. Low awareness in preventing stunting from an early age. Some people do not understand that stunting prevention must start from pregnancy, so that attention to fulfilling the nutritional needs of pregnant women is still lacking.

The main problem faced by partners is low public knowledge and awareness of balanced nutrition, which results in suboptimal consumption patterns and the continued risk of maternal nutritional problems. Therefore, structured, sustainable, and needs-based nutrition education interventions are needed.

METHOD

The method used in this community service activity is designed in an educational, participatory, and applicative manner, with the aim of not only increasing knowledge, but also forming skills and behavioral changes in pregnant women in implementing balanced nutrition targeting all mothers including pregnant women, breastfeeding mothers, and mothers of toddlers in Blang Asan Village, Peusangan Health Center working area. This community service activity was carried out on March 31, 2026, with the implementation time adjusted to the schedule of maternal health service activities at the village level, especially Posyandu activities and pregnant women and toddler classes. This time determination takes into account the availability of activity targets, namely pregnant women, as well as synergy with routine programs that have been running in the Peusangan Health Center working area so that the implementation of activities is more effective and efficient.

The location of the activity is at the Integrated Health Post (Posyandu) and/ or the Blang Asan Village Office, which is within the working area of the Peusangan Community Health Center, Bireuen Regency. This location was chosen based on accessibility considerations, proximity to the target community, and the strategic function of the Posyandu as a community-based public health service center. In addition, the Village Office is used as an alternative location to support educational activities and demonstrations that involve the active participation of pregnant women, health cadres, and village officials.

By selecting the right time and location, it is hoped that this community service activity will be optimal, participatory, and have a significant impact on improving knowledge and practices of balanced nutrition among pregnant women in an effort to prevent stunting. The format of the activity and how it will be implemented are as follows:

1. Pretest

The activity began with a pretest to measure pregnant women 's initial knowledge regarding balanced nutrition and stunting prevention . The pretest used a simple questionnaire developed based on indicators of maternal nutritional knowledge . The pretest was conducted directly before the educational materials were presented , with assistance from the implementation team to ensure respondents understood each question .

2. Balanced Nutrition Counseling / Education

The outreach was conducted through an interactive lecture method using educational media such as leaflets , posters, and other visual aids . The material presented covered the concept of balanced nutrition , the nutritional needs of pregnant women , the risk of Chronic Energy Deficiency (CED), and its relationship to stunting . Participants were encouraged to actively ask questions and share experiences to increase understanding and engagement .

3. Demonstration of a Nutritious Food Menu Based on Local Food

The demonstration involved demonstrating how to prepare a balanced, nutritious meal using readily available local ingredients . The implementation team demonstrated food compositions that meet carbohydrate , protein , vitamin , and mineral needs . Participants were also given the opportunity to participate directly in the menu development process to facilitate its application in their daily lives .

4. Nutritional Status Measurement (MUI)

The nutritional status of pregnant women is measured using a mid-upper arm circumference (MUAC) tape . This measure aims to directly assess the nutritional status of pregnant women and identify the risk of developing CED . It is carried out by trained healthcare workers or teams , while adhering to standard measurement procedures to ensure accurate results .

5. Discussion and Q&A

Following the briefing and demonstration , a discussion and question-and - answer session was held to clarify the material and strengthen understanding . Participants were given the opportunity to ask questions about any material they did n't understand and to share their experiences regarding consumption patterns during pregnancy . The discussion was open and interactive , encouraging active participation .

6. Cadre Mentoring

The program continued with mentoring for village health cadres as a sustainability effort . This mentoring included providing additional materials , simple training on nutrition education , and how to monitor the nutritional status of pregnant women . Cadres are expected to become agents of change , capable of continuing education and regular monitoring within the community .

7. Post-test

The final stage of the activity is a post-test to evaluate participants' knowledge gains after completing the entire series of activities . The instrument used is the same or equivalent to the pre-test , allowing for comparison of the results . The data obtained is then analyzed to assess the effectiveness of the educational activities .

RESULTS AND DISCUSSION

The community service activity in Blang Asan Village was attended by 45 **participants** consisting of pregnant women , breastfeeding mothers , and mothers of toddlers . The activity was evaluated through pretests and posttests , observations , and nutritional status measurements . The quantitative results of the activity are as follows :

Participant Knowledge Enhancement

Table 1. Increased knowledge of mothers in Blang Asan Village about Balanced Nutrition

Knowledge Category	Pretest (f)	(%)	Post-test (f)	(%)
Good	10	22.2%	30	66.7%
Enough	18	40.0%	12	26.7%
Not enough	17	37.8%	3	6.6%
Total	45	100%	45	100%

Based on Table 5.1, there is a significant increase in knowledge between the pretest and posttest results . During the pretest, the majority of participants were in the sufficient (40.0%) and insufficient (37.8%) knowledge categories , while only 22.2% were in the good knowledge category . This indicates that before the intervention , participants' understanding of balanced nutrition was relatively limited .

After receiving the education , there was a significant increase in the good knowledge category to 66.7%, while the poor category decreased drastically to 6.6%. This change indicates that the educational methods used in the community service activities were effective in increasing participants' understanding . Therefore , nutrition counseling accompanied by demonstrations and hands-on practice can be an appropriate strategy for increasing public knowledge .

Changes in Participants' Attitudes towards Balanced Nutrition

Table 2. Changes in the attitudes of mothers in Blang Asan Village about balanced nutrition

Attitude Category	Amount (f)	Percentage (%)
Positive	34	75.6%
Enough	8	17.8%
Not enough	3	6.6%
Total	45	100%

Table 5.2 shows that the majority of participants (75.6%) had a positive attitude towards implementing balanced nutrition after participating in the activity . This reflects a change in participants' perception and awareness regarding the importance of consuming nutritious food in daily life . Meanwhile , as many as 17.8% of participants were in the sufficient category and only 6.6% still showed an insufficient attitude . This change in attitude is the result of an educational process that not only provided information , but also actively involved participants through discussion and practice . This positive attitude is expected to encourage long -term behavioral changes , especially in meeting family nutritional needs .

Nutritional Status Measurement Results (MUI)

Table 4.3 Results of LILA Measurements of Mothers in Blang Asan Village

Nutritional status	Amount (f)	Percentage (%)
Normal (≥ 23.5 cm)	42	93.3%
KEK risk (< 23.5 cm)	3	6.7%
Total	45	100%

Based on Table 5.3, it is known that the majority of participants have normal nutritional status (93.3%), but there are still 6.7% of participants who are at risk of experiencing Chronic Energy Deficiency (CED). These results indicate that although the majority of participants are in good nutritional condition , there is still a significant proportion that requires special attention .

The MUAC measurement in this activity provides important benefits as an early detection tool for the risk of CED, especially in pregnant and breastfeeding women . This data can serve as a basis for health workers and cadres to implement further interventions , such as providing additional education , regular monitoring , and referrals if needed .

Participant Participation in Activities

Table 5.4: Participant Participation in Activities

Participation Indicators	Amount (f)	Percentage (%)
Active (discussion & practice)	36	80.0%
Quite active	7	15.6%
Less active	2	4.4%
Total	45	100%

Table 5.4 shows that the level of participant participation in the activities was relatively high , with 80.0% of participants actively participating in all series of activities , both in discussions and practicals . This indicates that the method used was able to create an interesting and interactive learning atmosphere .

A total of 15.6% of participants were classified as quite active , while only 4.4% were less active . This high level of participation is an indicator of the success of the activity , as active participant involvement significantly influences the successful transfer of knowledge and skills . Furthermore , high participation also reflects that this activity is in line with the needs and interests of the community .



Figure 1. Extension Activities

DISCUSSION

Improving mothers' knowledge about balanced nutrition

The results of the community service activities showed a significant increase in knowledge among participants after being given a balanced nutrition education intervention. Before the activity, most participants were in the sufficient (40.0%) and insufficient (37.8%) knowledge categories, indicating that mothers' understanding of the concept of balanced nutrition was still limited. However, after counseling, demonstrations, and direct practice, there was a significant increase in the good knowledge category to 66.7%, and a decrease in the insufficient category to 6.6%. These findings indicate that the educational intervention provided was able to effectively increase participants' understanding.

Theoretically, this increase in knowledge is in line with the concept of health promotion proposed by Soekidjo Notoatmodjo, who stated that knowledge is the main domain in the formation of healthy behavior. Good knowledge will influence attitudes and ultimately encourage the formation of healthy behavior. In this context, increasing maternal knowledge about balanced nutrition is an important first step in efforts to change healthier food consumption behavior during pregnancy, breastfeeding, and in feeding children (Notoatmodjo, S, 2012).

In addition, these results are also in line with government policy through the Ministry of Health of the Republic of Indonesia in the Balanced Nutrition Guidelines which emphasize that nutrition education is one of the main strategies in increasing public awareness of the importance of consuming diverse, nutritious, balanced, and safe foods. The guidelines explain that the implementation of the four pillars of balanced nutrition — namely diverse food consumption, clean living behavior, physical activity, and weight monitoring — can only be achieved if the public has adequate knowledge Ministry of Health (Kemenkes RI 2022).

The educational methods used in this activity, namely lectures, interactive discussions, demonstrations, and direct practice, are also in accordance with the adult learning approach (andragogy), where participants more easily understand the material if accompanied by direct experience. Demonstrations and practices of preparing local food-based menus have been proven to be able to increase participants' understanding because the material is not only theoretical, but also applicable and contextual to the daily lives of village communities.

These results also support previous research showing that integrated and ongoing nutrition education can significantly improve maternal knowledge . This increased knowledge is crucial in supporting efforts to accelerate stunting reduction , as outlined in the national policy on stunting prevention , which emphasizes interventions during the First 1,000 Days of Life (HPK).

The author assumes that the significant increase in knowledge in this activity was influenced not only by the counseling method used , but also by the relevance of the material to the participants' needs . The majority of participants were pregnant women , breastfeeding mothers , and mothers of toddlers who directly experienced the importance of fulfilling nutritional needs in their daily lives . In addition , the use of easily accessible local food- based menu examples also made it easier for participants to understand and accept the material provided . Thus , the author assumes that a contextual and participatory educational approach is a key factor in the success of increasing knowledge in this activity .

Changes in Participants' Attitudes towards Balanced Nutrition

The results of the activity showed that the majority of participants (75.6%) had a positive attitude towards the implementation of balanced nutrition after participating in the educational activities . This reflects a change in perception and an increase in participants' awareness of the importance of consuming nutritious food in everyday life . Before the intervention , participants' attitudes tended to be influenced by habits and limited knowledge , but after being given comprehensive education , there was a change for the better .

Theoretically , this change in attitude is in line with the concept of health behavior proposed by Soekidjo Notoatmodjo , who stated that attitude is a person's closed response to a stimulus that has been understood . In the process of behavioral change , attitude is the next stage after knowledge , where individuals begin to accept and respond to the information obtained in more depth . Thus , the increase in positive attitudes in this activity shows that participants not only understand the information , but also begin to accept the importance of implementing a balanced diet .

Furthermore , these results align with the Indonesian Ministry of Health 's Balanced Nutrition Guidelines policy , which emphasizes that behavioral change must begin with increased knowledge and positive attitudes . The guidelines explain that public awareness of the importance of consuming diverse , nutritious , balanced , and safe foods is strongly influenced by attitudes formed through ongoing education .

A total of 17.8 % of participants were in the adequate attitude category , and 6.6% still showed a less than optimal attitude . This indicates that although most participants had experienced attitude change , a small number still required a more intensive educational approach . Factors such as eating habits , family influences , and socioeconomic conditions may contribute to the suboptimal attitude change in some participants .

The educational methods used in this activity , namely lectures , interactive discussions , demonstrations , and direct practice , have proven effective in shaping positive attitudes among participants . The active involvement of participants in discussions and practices allows them to not only receive information but also internalize important values related to balanced

nutrition . This approach is in accordance with the principles of participatory learning which emphasizes direct involvement as the key to successful attitude change .

The author assumes that the significant change in attitudes among participants was influenced by an educational approach that was contextual and tailored to community needs . The material presented was relevant to participants' daily lives , and the use of local food examples made the information more easily understood . Furthermore , the interactive and informal atmosphere of the activity encouraged participants to be more open to accepting and understanding the importance of balanced nutrition . Therefore , the author assumes that the success of this attitude change is inseparable from the combination of appropriate educational methods and the suitability of the material to the participants' needs .

Nutritional Status Measurement Results (MUI)

Based on the results of the Upper Arm Circumference (MUAC) measurement , it was found that the majority of participants had normal nutritional status (93.3%), while 6.7% were in the category at risk of experiencing Chronic Energy Deficiency (CED). This finding indicates that in general the nutritional condition of the participants was classified as good , but there was still a small group that required further attention and intervention . Although the proportion was relatively small , the presence of mothers at risk of CED remains an important issue because it can impact maternal health as well as the growth and development of the fetus and child .

Theoretically , maternal nutritional status , especially during pregnancy and breastfeeding , is an important indicator in determining the quality of maternal and child health . LILA measurement is used as a simple and effective method to detect the risk of KEK, with a limit of <23.5 cm as a risk indicator . This is in line with the guidelines from the Ministry of Health of the Republic of Indonesia which states that LILA is a rapid screening tool to identify pregnant women at risk of chronic energy deficiency , so that intervention can be carried out as early as possible .

In the context of stunting prevention , maternal nutritional status plays a crucial role , particularly during the first 1,000 days of life (HPK). Mothers with chronically elevated birth weight (CED) are at higher risk of giving birth to babies with low birth weight (LBW), a major risk factor for stunting. Therefore , monitoring nutritional status through MUAC measurements is a crucial component of maternal and child health programs .

The implementation of LILA measurements in this community service activity provides direct benefits to participants , as they can determine their nutritional status simply and quickly . Furthermore , the data obtained can be used by health workers and cadres as a basis for carrying out follow- up actions , such as providing more intensive nutrition education , regular monitoring , and referrals to health facilities if conditions are found that require further treatment .

The author's assumption is that the high proportion of participants with normal nutritional status is likely influenced by the social conditions of the community , which are quite good at meeting basic food needs , even though they do not fully understand the principles of optimal balanced nutrition . Meanwhile , the presence of participants at risk of KEK can be caused by factors such as less diverse consumption patterns , limited nutritional knowledge , and family economic conditions . Therefore , the author assumes that although the nutritional status of the majority

of participants is considered good , educational interventions and mentoring are still needed on an ongoing basis to maintain and improve nutritional status , especially for at- risk groups .

Participant Participation in Activities

The results of the activity showed that the level of participant participation was relatively high , where as many as 80.0% of participants actively participated in the entire series of activities , both in discussions and practices . Meanwhile , 15.6% of participants were classified as quite active and only 4.4% were less active . This high level of participation reflects that the community service activities carried out were able to attract the interest and involvement of participants optimally .

Theoretically , active participation is an important indicator of the success of the learning process , particularly in the health promotion approach . According to Soekidjo Notoatmodjo, active individual involvement in the educational process will improve understanding , attitudes , and skills in implementing health behaviors . Participation reflects not only physical presence , but also mental and emotional involvement in receiving and processing the information provided .

The high level of participant participation in this activity also shows that the methods used , such as interactive lectures , discussions , demonstrations , and direct practice , are in accordance with the principles of adult learning (andragogy) . This approach emphasizes the importance of direct experience and active involvement in the learning process , so that participants are not only recipients of information , but also play a role as subjects in learning .

Furthermore , high participation aligns with the community empowerment approach emphasized by the Indonesian Ministry of Health in its health promotion program . This policy encourages communities to play an active role in improving their health through participatory , locally - based educational activities . This demonstrates that the success of a health intervention is determined not only by the material provided but also by the level of community involvement in the activity .

However , there are still a small number of participants who are classified as quite active (15.6%) and less active (4.4%). This can be caused by several factors , such as education level , self- confidence , passive habits in group activities , or limited time and physical condition , especially among pregnant and breastfeeding women . Therefore , a more inclusive and personalized approach strategy is needed to encourage participation of all participants equally .

The author assumes that the high level of participant participation in this activity was influenced by the suitability of the material to the participants' needs as well as the interesting and applicable delivery method . In addition , the interactive atmosphere of the activity , the use of easy - to-understand language , and direct involvement in the practice of preparing a local food-based menu also increased participants' interest in active participation . Thus , the author assumes that a participatory and contextual educational approach is a major factor in the success of increasing community participation in this activity .

CONCLUSION

Based on the results of the implementation of community service activities on the application of balanced nutrition education for pregnant women, breastfeeding mothers, and mothers of toddlers in Blang Asan Village, Peusangan Health Center working area, Bireuen Regency, it can be concluded that this activity went well and had a positive impact. The evaluation results showed an increase in participant knowledge, where the good knowledge category increased from 22.2% to 66.7% after the intervention. This shows that the educational method used is effective in increasing participants' understanding of balanced nutrition and stunting prevention. In addition, there was a positive change in attitude, with 75.6% of participants showing an attitude that supports the implementation of balanced nutrition. This indicates that participants not only understand the material provided, but also begin to realize the importance of implementing a healthy diet in everyday life.

From the aspect of nutritional status, the results of the Upper Arm Circumference (MUAC) measurement showed that most participants (93.3%) were in the normal category, although there were still 6.7% who were at risk of experiencing Chronic Energy Deficiency (CED). This indicates the need for further monitoring and intervention for at-risk groups. The level of participant participation in the activity was relatively high, with 80.0% of participants actively participating in the entire series of activities. This shows that the method used was able to create an interactive learning atmosphere and was in accordance with the needs of the community. Overall, this community service activity proved effective in increasing knowledge, attitudes, and community involvement in efforts to implement balanced nutrition as a measure to prevent stunting.

Based on the results of the activities that have been implemented, several suggestions are presented that are expected to integrate balanced nutrition education activities into the routine Posyandu program and improve regular monitoring of the nutritional status of pregnant women, especially through LILA measurements, as well as support from various parties both to the local area.

BIBLIOGRAPHY

- Darwin, Devi, N. Yulianti, and Nur Fadhilah Safrillah. 2025. *Stunting in Social Aspects*. NEM Publisher.
- Martony, Oslida. 2023. "Stunting in Indonesia: Challenges and Solutions in the Modern Era." *Journal of Telenursing (JOTING)* 5(2):1734–45.
- Almatsier, S. (2010). *Basic principles of nutritional science*. PT Gramedia Pustaka Utama.
- Black, RE, Victora, CG, Walker, S.P., Bhutta, ZA, Christian, P., de Onis, M., Ezzati, M., Grantham-McGregor, S., Katz, J., Martorell, R., & Uauy, R. (2013). Maternal and child undernutrition and overweight in low- and middle-income countries. *The Lancet*, 382(9890), 427–451. [https://doi.org/10.1016/S0140-6736\(13\)60937-X](https://doi.org/10.1016/S0140-6736(13)60937-X)
- Bireuen District Health Office. (2024). *Bireuen District Health Profile 2024*.
- Ministry of Health of the Republic of Indonesia. (2019). *Balanced nutrition guidelines*. Directorate of Community Nutrition.
- Ministry of Health of the Republic of Indonesia. (2022). *Guidelines for preventing stunting in Indonesia*. Directorate of Nutrition and Maternal and Child Health.
- Ministry of Health of the Republic of Indonesia. (2024). *Indonesian Nutritional Status Survey (SSGI) 2024*.



- Notoatmodjo , S. (2012). Health promotion and health behavior . Rineka Cipta.
Bireuen Regency Government . (2023). Data on families at risk of stunting in Bireuen Regency
- World Health Organization. (2020). Healthy diet. <https://www.who.int/news-room/fact-sheets/detail/healthy-diet>