



Strengthening Nutrition Sources Based on Local Food as an Effort to Prevent Stunting

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Abstract: This short study aims to illustrate how the power of local food as a source of community nutrition is very adequate. This study focuses on the sexy national issue of stunting in children who should be experiencing perfect growth and development. The research method in this study is a discourse search and analysis with a content analysis approach of a scientific work. The study will be described with a narrative that has been qualitatively analysis based on certain categories. Data sources are various scientific journals, reference books and other sources considered compatible with this study. The use of local food potential to be empowered into processed food is very likely to be used as food to prevent stunting symptoms in infant growth. From this study, it can be concluded that various studies confirm how the contribution of local resources in terms of food is very significant in helping the stunting reduction program in the community. The nutritional content contained in corn, sweet potatoes, taro, carrots, tubers and so on are very contributive alternative ingredients. As an example, children who are lacking in vitamin C will have difficulty in forming protein and collagen, which will inhibit their growth and development. Normal children's protein intake was mostly from animal-source foods such as eggs, but the protein intake of stunted children was primarily sourced from legumes.

Keywords: Local Food; Nutrition; Strengthening; Stunting

Introduction

Stunting is a condition where young children fail to grow and develop while still in the womb, and can be detected by looking at the child's body which is smaller than other children of the same age (Alifariki, 2020; Ngura, 2022). The short-term consequences of stunting are growth disorders, metabolic disorders, brain development disorders that affect children's intelligence (Permatasari et al., 2020). In the long term stunting will hamper economic growth, increase poverty and increase imbalances in the society (Leroy et al., 2020; Yulmaniati et al., 2023). Stunting is a depiction of chronic undernutrition during growth and development from the beginning of life (Zurhayati & Hidayah, 2022).

The results of the Basic Health Research (Riskesdas) in 2018 showed that the prevalence of stunting in children under five years old was 30.8% and decreased to 27.67% in 2019 (Indonesian Nutrition Status Survey (SSGI), 2019) but it is still higher than the WHO recommended figure of below 20 percent. In 2022, the stunting prevalence in Indonesia is still at 24.4%, which is still far above the WHO's limit of below 20% above the WHO limit of below 20%. In order to reduce the stunting rate in Indonesia, government is prioritizing this issue with a target of reducing the stunting rate in Indonesia to 14% by the end of the Jokowi-Ma'ruf Amin administration (Yulmaniati et al., 2023).

Stunting is irreversible due to inadequate nutrition and repeated infections during the first 1000 days of a

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child's life (Saavedra & Dattilo, 2022). Childhood stunting is one of the most significant barriers to human development and globally affects an estimated 162 million children under five (Maulina, 2020). Stunting has long-term associations on individuals and society, including decreased cognitive and physical development, reduced productive capacity and poor health, and an increased risk of degenerative diseases such as diabetes. Stunting is a well-established risk marker of poor child development, and Stunting before age two predicts poorer cognitive and educational outcomes in later childhood and adolescence (Deshpande & Ramachandran, 2022). Child stunting has immediate and long-term consequences, including increased morbidity, mortality, and adverse impact on child development and adult health contributes to the cycle of malnutrition, and hampers economic development (Laksono et al., 2022).

Stunting is caused by the intake of insufficient nutrition for a long time, so the prevention of stunting can be done by increasing children's nutritional intake. Efforts to increase children's nutritional intake can be done by utilizing local food products. There are several local food products in Indonesia such as coffee, pineapple and corn. One of the food products that has high nutritional content, so it can be utilized in improving child nutrition is corn (Swapna et al., 2020). Maize kernels are rich in carbohydrates as they are mostly rich in endosperm. The carbohydrate content in maize can reach 80% of the overall dry matter of the seed. Carbohydrates in the form of starch are mainly a mixture of amylose and amylopectin. The benefits of corn for our health are due to the quality of nutrients it contains. Other local food sources are very abundant in Indonesia, depending on the region, so it is necessary to continuously and continuously strengthen the awareness and importance of pioneering the utilization of local food by local communities.

Method

The type of research used in this study is descriptive research with a qualitative approach (Khotimah et al., 2023; Sianipar et al., 2021). The data taken, identified in the following order: data collection; data sorting; data analysis; conclusion making. As for data analysis, there is a predetermined sequence in accordance with the empirical steps taken, namely as follows: Examination of data; suspected data findings; Data confirmation; Diagnosis; Action. In the diagram can be described as the flow of research as follows, namely as follows:



Figure 1. Research Logic Flow

This research is a literature study, which attempts to explain the research problem based on the theoretical level based on previous empirical and theoretical research. From these various reference sources, a holistic understanding of the importance of thinking that reaches how local food sources are one of the sources of food that can be utilized to reduce the lack of nutritional intake in children who are stunted is elaborated.

Result and Discussion

A Brief Fact of Stunting in Indonesia

Stunting is a condition of growth failure in children under five years of age due to lack of nutrition for a long time. The impact experienced by stunted toddlers is that they do not have the intelligence they should have, become vulnerable to disease, and are at risk of decreased productivity. The most visible and common physical characteristics known by the public are: a child's growth is shorter than their age (Ariyanti et al., 2023).

Based on the results of the Basic Health Research in 2018, the prevalence of stunting in Indonesia was 30.8%. This fact is known to have decreased from the prevalence of stunting in 2013, which was 37.2%. However, this figure is still far from the World Health Organization (WHO) target based on the Global Nutrition Targets 2025 Stunting Policy Brief, the stunting rate must decrease by 40% (Husnah et al., 2022). Stunting reflects impaired growth as a result of poor nutritional and health status in the pre- and post-natal periods. The UNICEF framework describes the factors that cause malnutrition. The two direct causes of stunting are disease and nutrient intake (Namanya, 2022). These two factors are related to parenting, access to food, access to health services and environmental sanitation. However, the underlying causes of these are at the individual and household level, such as education level, household income. Many cross-sectional studies have found a strong relationship between maternal education level and child nutritional status (Husnah et al., 2022).

Stunting is caused by multi-dimensional factors and is not only caused by malnutrition (Sisimayi et al., 2021). Malnutrition experienced by pregnant women and children under five. Some of the factors that influence the incidence of stunting include maternal factors, home environment factors, low food quality, poor feeding, food and beverage safety, breastfeeding (breastfeeding phase), infection, political economy, health and health services, education, social and cultural, agriculture and food systems, water, sanitation and environment. Specific nutrition interventions targeting breastfeeding mothers breastfeeding mothers and children aged 7-23 months are part of the government's stunting intervention framework. These interventions include activities to encourage the continuation of breastfeeding until the child/baby is 23 months old. Then, after the baby is over 6 months old, it is accompanied by complementary feeding. The use of local foods is feasible for weaning infants because they have no side effects, are cheap, easy to develop and high in nutrients. In addition, research or studies involving local foods have been conducted (Husnah et al., 2022).



Figure 2. Illustration of Stunting, Source: <https://yankes.kemkes.go.id/>

According to Schwarzenberg and Georgieff, the main contributing factor to stunting is the unmet need for optimal the first 1,000 days of life, from conception until the child is two years old. In the frame of Beal, limited consumption of nutritious food can be influenced by economic factors such as food prices and family income and is closely related to individual and family food access. In the current Covid 19 pandemic situation where the number of job cuts and unemployment is high, it has an indirect impact on household food security (Sutyawan et al., 2022).

Optimizing the use of local food or food around the community is one alternative in overcoming limited family food access (Nicholson et al., 2021). With efforts to utilise local food, rural communities, especially the lower middle economic class, can minimize the allocation of family income to buy food. The local food grown in the yard or home garden can overcome food

insecurity and malnutrition and provide additional benefits such as the addition of vegetables and fruits (Dissanayake & Maredia, 2020; Sutyawan et al., 2022).

Local Food as an Alternative Source of Nutritional Strengthening

Local food safety policy strategies are urgently needed in the regions. Especially when increasing food needs and decreasing access and nutritional intake of the community towards local food as an alternative to stunting prevention (Ariyanti et al., 2023). Local food issue can be dissemination by local community, the activist of people, NGO and local government absolutely. community development can be interpreted as efforts to enable individuals and groups in society to be able to solve social problems and have choices tangible concerns his future so that it can improve quality of life (Rondiyah, 2020).



Figure 3. Local Food, Source : <https://www.google.com/>

Local food is food that is a good source of carbohydrates, protein, vitamins and minerals that is produced and developed in accordance with the potential of regional resources and local culture (Adriyani et al., 2022; Harahap et al., 2023). produced and developed in accordance with the potential resources of the region and local culture. One of the local foods is tubers. Tubers are a source of carbohydrates that have the potential to be developed as a substitute for rice (Amanto et al., 2019; Nabeshima et al., 2020). Based on the level of production, sweet potato production holds the fifth most important average rank in agricultural commodities in developing countries such as China, Japan, Taiwan, South Korea and Indonesia (Ngura, 2022).

As an illustration, research in Aceh in 2021 tested the content of supplementary food for toddlers of the food bar type with the addition of fish meal. The content of essential amino acids in complementary food products is used as additional food for children under five (especially children under five who are stunted). The amino acid used is L-threonine, whose chemical

score value is more than 75%. The addition of fishmeal, tempeh, and beans contributed significantly to the protein content of the product (Husnah et al., 2022). According to the Ministry of Health, the adequate amount of protein for toddlers per day is 26 g (Darawati et al., 2021). The selected food bar contains 6.27g of protein. This shows that the protein contained in food bars as supplementary food (PMT) is higher than the formulated Recovery PMT biscuits containing 3.2-4.8 grams of protein per 40 grams of biscuits. The high value of protein content in food bars can help linear growth of toddlers related to the quality and quantity of protein provided as supplementary food (Husnah et al., 2022).

Corn is one of the crops that, after rice, provides the second most carbs. Corn is utilized in animal feed and the processed food industry in addition to food. Corn has a high nutritional value (Loy & Lundy, 2019; Murniati & Munisara, 2021). We will see the one of local food with its ingredient of nutrition. The illustration is a cassava here. Cassava is a type of calorie-rich vegetable that contains plenty of carbohydrates and key vitamins and minerals. This group of tubers is a good source of vitamin C, thiamine, riboflavin and niacin. The leaves, which can also be eaten if cooked, are estimated to contain up to 25% protein, as quoted from the Medical News Today page. Quoted from the Pangan Nusantara page, the website of the Indonesian Ministry of Agriculture, in 100 grams of cassava contains the following nutritional sources: 154 kcal energy, 1 gram protein, 0.3 grams fat, 36.8 grams carbohydrate, 31 mg vitamin C, 1.1 mg iron, 77 mg calcium and 0.9 grams fibre. The tapioca flour produced by cassava is gaining widespread attention as a source of gluten-free flour for making bread and other baked products suitable for people with gluten intolerance.

Health benefits: Cassava is a source of resistant starch, which remains relatively unchanged as it passes through the digestive tract because it is resistant to digestive hydrolysis enzymes and cannot be absorbed in the small intestine. People ate food from garden products such as bananas, cassava, with rice. Fish is edible but rarely (Marsaoly et al., 2021). The vitamin content of local food sources is also important to note as a reliable source to fulfil the nutritional needs of children who are obviously in a position of growth. This logic is undoubted, because in the growth period the need for nutrition is very important. The children with less vitamin C intake tend to have higher risk of stunting than children with sufficient vitamin C intake. Vitamin C aids in the production of collagen, fiber, and protein structure, as well as increasing the body's resistance against infections. Collagen is involved in the development of bones, teeth, and scar tissue and normal collagen cannot be generated in the absence of adequate quantities of vitamin C (Ilmani & Fikawati, 2023).

Conclusion

The use of local food potential to be empowered into processed food is very likely to be used as food to prevent stunting symptoms in infant growth. From this study, it can be concluded that various studies confirm how the contribution of local resources in terms of food is very significant in helping the stunting reduction programme in the community. The nutritional content contained in corn, sweet potatoes, taro, carrots, tubers and so on are very contributive alternative ingredients.

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Conflicts of Interest

In this research, there is no tug of interest and or hidden interests among the researchers. In addition, this research is also not an order from any funder because it is an independent research, or in other words, the research team itself plays a role in preparing proposals, selecting topics, conceptualizing problems, collecting data, analyzing problems, drawing conclusions until the publication stage in this journal.

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