

Additional Feeding with The Basic Ingredients of Moringa Oleifera for Pregnant Women to Overcome Stunting

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ABSTRACT

The rate of stunting in Indonesia is still very high. Based on the results of the Basic Health Research (Riskesdas) shows that the prevalence of stunting in 2018 shows that the rate of stunting in children under five in Indonesia reaches 30.8%. Stunting is caused by many factors, such as the effect of the condition by the mother during pregnancy. In addition, indirect factors such as exclusive breastfeeding, mother's knowledge, and economic factors also affect the health of toddlers. This literature review aims to identify a number of studies on Supplementary Feeding (PMT) made from Moringa Oleifera in pregnant women to overcome stunting. Moringa Oleifera can be used as an alternative source of protein and calcium that is potential to sufficient the nutritional needs of pregnant. The articles using Google and Google Scholar as seeking.

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Introduction

Indonesia is a developing country that has complex problems, especially nutritional problems (Rusilanti, Dahlia, & Yulianti, 2015). One of the most common nutritional problems is stunting. Stunting is one of the problems that hinder human development globally. The incidence of stunting in the world in 2017 was 22.2% or around 150.8 million children under five in the world are stunted. But this figure has decreased when compared to the stunting rate in 2000, which was 32.6%. In 2017, more than half of the world's stunted children under five came from Asia (55%) while more than a third (39%) lived in Africa. From 83.6 million under-five stunting in Asia, the highest proportion comes from South Asia (58.7%) and the lowest proportion in Central Asia (0.9%). The average prevalence of stunting under five in Indonesia in 2005-2017 is 36.4% (Pusdatin, 2018).

Maternal health and nutrition conditions before and during pregnancy and after delivery affect fetal growth and the risk of stunting (Kemenkes RI,

2018). Currently, there are still many pregnant women in Indonesia who experience nutritional problems, especially malnutrition such as Chronic Energy Deficiency (KEK) and anemia (Ministry of Health, 2014). The percentage of women of childbearing age (WUS) at risk of CED in Indonesia in 2017 was 10.7%, while the percentage of pregnant women at risk of CED was 14.8%. The nutritional intake of WUS who are at risk of SEZ must be increased so that they can have a body weight that the prevalence of short toddlers becomes a public health problem if the prevalence 20% or more. Stunting can be considered a serious problem if the prevalence in a community reaches 30-39% and is considered a serious community problem if the prevalence reaches 40%. The percentage of stunting in Indonesia is still high and is a health problem that must be addressed. Indonesia is the fifth largest country that contributes to stunting in the world where almost 9 million children or more than one-third under five years (toddlers) in Indonesia are stunted and Aceh is one of

the provinces in Indonesia with a very high stunting rate ideal during pregnancy (Kemenkes RI, 2018). Mothers who are malnourished (starvation) in the trimester before the birth of a child are at risk of giving birth to a child with low birth weight, while a child born to a mother who is malnourished in the two trimesters before the birth of a child has a risk of suffering from non-communicable diseases. Based on this theory, it greatly affects the growth and health of children both during their growth and in good health during growth and after adulthood (Barker et al 1989). Indicators of health problems in women that are closely related to stunting include anemia and malnutrition called Chronic Energy Deficiency (KEK) in Women of Childbearing Age (WUS) and pregnant women.

One of the foods that have good nutritional content for pregnant women is Moringa leaves (*Moringa oleifera*). Based on the above, this article aims to reduce the number of nutritional deficiencies of pregnant women, so that the emergence of this idea is to provide additional food with the basic ingredients of *Moringa Oleifera* for pregnant women to overcome stunting.

Method

The method used in this study is a literature review, which is a method whose object of research is in the form of written works in the form of scientific journals, articles in mass media, books, and statistical data. The literature will be used to answer the research problems proposed by the author, which in this case is about providing additional food with the basic ingredients of Moringa leaves for pregnant women to prevent stunting and the nutritional content contained in Moringa leaves to be used as PMT for pregnant women. The nature of the study is carried out is a literature study, namely providing education, implementing theory, and increasing understanding to the reader, and the type of data used in this research is secondary data. Relevant data included Google Scholar, Ministry of Health, and Riskesdas, from 21 articles 11 articles were identified to be included in the review.

Results

Stunting is less problem chronic malnutrition due to lack of nutritional intake in a long time so that cause growth retardation in children. Factor affecting the occurrence of stunting problems, including is the mother's nutrition during pregnancy. Mother pregnant women who are malnourished will resulting in the fetus being conceived too suffer from nutritional

deficiencies. Malnutrition in pregnancy happens continuously will give birth malnourished children. Condition this if it lasts for a period of time which is relatively long will cause children fail in growth (stunting).

Prihananto and 's research results friends in 2007 that the intervention supplementary food with 27.9% energy RDA and protein 23.3% RDA can be meet the mother's energy sufficiency level pregnant at 102% RDA, while new protein fulfilled 76.6% RDA. Wrong a good local food ingredient for PMT is Moringa leaf (*Maringo Oleivera*), a plant that has good nutritional content for mothers pregnant. Moringa leaves can be used as alternative source of protein and calcium potential to meet nutritional needs pregnant women because it contains 3. protein times higher than full cream milk powder or 9 times yogurt protein and 17 calcium times higher than calcium on milk (Kholis and Hadi, 2010).

In the journal entitled "Es Cream Moringa: Product Innovation as Stunting Prevention Efforts Within 1000 FirstDay of Life (HPK)" which written by Ninna Rohmawati, Anita Dewi Moelyaningrum, and Eri witcahyo (2019), This method is implemented using community empowerment methods that contains about making Moringa flour being a Moringa ice cream product is the solution for one of the choices of food ingredients for the general public, especially patients stunting is a problem public health. Besides, ice cream Moringa is used as a gift Supplementary Food (PMT) recovery stunting children under five, namely malnutrition and Malnutrition in the working area of the Puskesmas Wuluhan and Moringa leaf ice cream too used as PMT in posyandu on December 2018.

In the journal entitled "The Benefits of Maringa Oleifera Extract Against Height Increase Toddler" written by Dyah Muliawati, Nining Sulistyawati, and Fitri Siswi Utami (2019), using the type of research quasi-experimental approach pre and post only test designs. Result of This research shows that there are increase in child's height from giving Moringa leaf extract in powder form to toddlers by mixing with food or directly in Consume with water or orange juice. Powder Moringa Oleifera have a positive effect against malnutrition prevention and curative in infants, pregnant and lactating women.

In the journal entitled "Moringa Leaf Extract Against Increased Maternal Intake and Weight Pregnant Informal Sector Workers" who written by Hermansyah, Veni Hadju, dan Burhanuddin Bahar, using the type of intervention research by design randomized controlled Double Blind explained that,

the administration of capsules Moringa leaf extract can increase weight of pregnant women, and for 3 months see a deep direct impact This research is assessed through changes weight and upper arm circumference. The administration of this Moringa extract is considered able to reduce the prevalence of KEK by 11.4%. Giving Moringa to cases of malnutrition in some research has proven to be able improve the nutritional status of the wrong subject the only research conducted by Srikanth et al., in India regarding improvement of nutritional status of PEM children who given Moringa leaf powder.

In the journal entitled "Consumption of Deep Moringa Leaf Extract Increases Hemoglobin Levels in Pregnant Women" written by Tri Hartati and Sunarsih by using the type of quantitative research by design Quasi Experimental research and one group approach pretest-posttest design explained that, the nutritional content found in fresh Moringa leaves increased (concentration) when consumed after drying and ground into powder (flour). A total of 25 grams of leaf powder Moringa is consumed by mothers who are pregnant every day for improve nutritional status. In the year of 1997, Alternative Action for African Development (AGADA) and Church the World Service reports that flour Moringa leaves can prevent the occurrence of nutritional problems in mothers who are pregnant or mothers who are breastfeeding and their children in South Senegal area. Giving Moringa leaf flour can maintain increased body weight and overall health. Mothers who are pregnant and breastfeeding recovers from anemia and gave birth to a baby whose weight relatively larger. These mothers too can produce more milk (Winarno, F. 2018). In this journal you can concluded that there is an influence administration of Moringa leaf extract in the form of flour to increase in levels Hemoglobin in pregnant women.

Discussion

Stunting is a nutritional problem multidimensional, influenced by various factors, one of which is food intake. Problem nutrition for pregnant women and children under five is not easily recognized by the government, or society and even family, because mother pregnant and the child under five does not appear sick. Impact of early malnutrition child's life will continue in every human life cycle. woman age fertile (WUS) and pregnant women who experiencing chronic energy deficiency (KEK) will give birth to a baby weighing low birth weight (LBW). this LBW will continue to be malnourished toddlers (stunting)

and continues into childhood school with its consequences. This group will be the generation that lost the golden time to grow flower without any countermeasures adequate. Malnutrition in life humans need to be wary of carefully, apart from the impact on growth child development, this event usually doesn't stand alone but followed by trouble micronutrient deficiency.

Indirect Factors Causing Children Stunting

a. Exclusive breastfeeding

Exclusive breastfeeding is breastfeeding without food and other additional drinks for babies 0-6 months old. On breast milk there is a lot of colostrums contains nutrients and substances body defense, foremilk (milk initial) containing protein lactose and high-water content and low fat while hindmilk (final milk) contains lots of high fat energizes and gives flavor satiety longer (Ruslianti et al. 2015). Good breastfeeding by mother will help look after nutritional balance for children achieved child growth normal.

b. Mother's Knowledge

Mother's knowledge about nutrition is the initial process in improvement behavior change nutritional status, so that knowledge is an internal factor that affect behavior change. Mother's knowledge about nutrition will determine the mother's behavior in provide food for his son. Mother with knowledge good nutrition can provide food by type and amount right for growth and the child's development.

c. Economic Factor

Factors causing deficiency nutrition, namely low income, as a result, the family consumes cheaper food and less varied menu. Most of the toddlers who have growth disorders have a high economic status low, and according to research from Kusuma and Nuryanto 2013 shows that children with family economic status low risk 4,13 times experiencing stunting.

Impact of Stunting on Children

The impact if the child experiencing stunting include:

- a. Early stunting children are before the age of six months, will experience more severe stunting by the age of two. Consequence resulting long term is the disturbance physical, mental, cognitive, and intellectual so that children are unable to learn independently optimal. Stunting children have low cognitive ability and increase the risk of death.

- b. Child stunting at the age of five years tend to be irreparable so it will continue until mature. mature woman who stunting risks giving birth to children with LBW. Stunting especially dangerous for women, because more likely to inhibit in the process of growth and greater risk of dying when give birth to.
- c. The basic factors that cause stunting can be annoying growth and development intellectual. Causes of stunting is a low-birth-weight baby, breast milk inadequate, food inappropriate addition, diarrhea recurrent, and respiratory infections, will greatly affect child health and development.

The Relationship of Mother's Nutritional Status with Stunting

According to research by Rahayu et al, 2018 shows that mothers who having a thin nutritional status will be at risk bigger to cause child experiencing stunting. Low maternal BMI have a risk of increasing the incidence of stunting and wasting in children (Ali et al., 2017). Mother with status malnutrition during pregnancy should be gain more weight compared to nutritional status normal or obese, if the mother is not can increase their weight optimal will be able to increase the risk giving birth to a child with LBW. Status Maternal nutrition also plays an important role in successful breastfeeding. Various research states that there are positive relationship between maternal nutritional status with breastfeeding performance as well as toddler growth (Fikawati, 2015).

Anemia in pregnant women related to energy intake and foods containing iron, low. This condition can result in maternal weight gain during non-optimal pregnancy and increased risk of premature birth, so that mothers are more at risk for give birth to a baby with low birth weight which is not optimal. Research that done by Hanumet al. (2014), also find the weight of the pre-pregnant mother, weight gain during pregnancy, maternal age, and birth order is an influencing factor birth weight. Based on Ministry of Health RI for pregnant women KEK There is already a nutrition improvement program determined by the government, namely by Supplementary Feeding (PMT) in the form of biscuits containing protein, linoleic acid, carbohydrates and enriched with II vitamins and 7 minerals accordingly with the Regulation of the Minister of Health Number 51 of 2016 concerning standards Nutritional Supplementation Products (Kemenkes RI, 2018).

PMT Moringa leaf cookies to mom pregnancy aims to prevent stunting since early stage. Selection of Moringa leaves as PMT because Moringa leaves are rich in nutrients including calcium, iron, protein, Vitamin A, Vitamin B, and Vitamin C (Misra and Misra, 2014). Moringa leaves also contain substances higher iron than other vegetables which is 17.2 m/100g (Yameogo et al, 2011). According to research by Prihananto and friends in 2007 that supplementary dietary intervention with energy 27.9% RDA and protein 23.3% RDA can meet the level of adequacy energy for pregnant women is 102% RDA, while the new protein fulfilled 76.6%. Plants that contain substances good nutrition for pregnant women is leaves Moringa (Maringa Oleifera).

Based on the benefits of content nutrition in Moringa leaves, PMT with ingredients this Moringa leaf base will indeed take a long time to eliminating stunting in Indonesia, will but at least the stunting rate in Indonesia can decline and not exceed the stunting threshold that has been WHO set that is 20%. stunting can decrease with the implementation of the article This will create a new generation of Indonesians with health and optimal intelligence so that expenditure of state money for allocation stunting can also be automatically switched for the needs of other countries.

Conclusion

Moringa leaf PMT is one of the efforts tackling the problem of malnutrition. This supplementary feeding is not only to children, but can also give to pregnant women so that substances nutrition is met and does not cause children born are stunted. Stunting is one of the problems nutrients that can inhibit growth and development of children at their age. This review article is useful for the community because there is education early stunting prevention where is one of the attempts consuming PMT with basic ingredients Moringa Oleifera that can be processed according to with its terms.

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