Appropriate Nutrition for Stunting Cases In Indonesia: Literature Review

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ABSTRACT

Background: Nutritional problems, especially stunting in infants, are caused by inadequate food intake and diseases which are direct causes of nutritional problems in children. The risk of stunting can also be obtained from maternal health and nutrition conditions before and during pregnancy and after delivery which can affect fetal growth. If the nutrition of adolescent girls in Indonesia is currently not improved, then on the future there will be more and more expectant mothers who have short body postures and lack of chronic energy. This will have an impact on the increasing prevalence of stunting in Indonesia.

Objectives: This literature review explains the fulfillment of nutrition in stunting cases of Indonesia.

Methods: The articles discussed in the literature review were taken from Google Scholar, SpringerLink, ScienceDirect, Sage Journals Online, and IJSR databases, within 2015-2019. Then an article is assessed until the literature review stage is made from 4 selected article titles according to the authors' inclusion criteria. The inclusion criteria in this review are based on PICO (P: stunting in Indonesia; I: nutrition fulfillment; C: physical condition of stunting sufferers; O: effectiveness of nutritional content).

Resuts:

Conclusions: Fulfillment of nutrition for toddlers does not only depend on the diversity of the types of food consumed and the nutritional content, but also depends on processing how to cook and serve

Keywords: *Indonesia, Nutrition, Stunting*

INTRODUCTION

The condition of malnutrition in children or often called stunting is a global problem, including in Indonesia. Stunting problems is multidimensional problems including improper feeding practices, recurrent infectious diseases, poor hygiene and care behavior, use of unclean water, unhealthy environments, low incomes, and limited access to food (1). Stunting can have an impact on children's survival, micro and macro impacts can occur. In the micro impact there will be an increase in mortality and morbidity, decreased cognitive, motor and language development. While the macro effects include short stature, increased risk of obesity, decreased reproductive health, decreased learning achievement and decreased work capacity (2).

In Indonesia, the national travel prevalence in 2013 was 37.2%, an increase compared to 2010 which was 35.6% and in 2007 it was 36.8% (3). The prevalence of stunting decreased in 2018 but still showed a significant figure. very high, which is 30.8 (4). This means that one in three toddlers in Indonesia is stunted. Although this figure has dropped compared to the prevalence of stunting in 2013 (37.2 percent), it is still higher than the stunting tolerance limit set by WHO, which is a maximum of 20 percent.

Women of childbearing age (WUS) and pregnant women who experience chronic energy deficiency (KEK) will give birth to babies with low birth weight (LBW). This LBW will continue to be a nutrient-deficient toddler (stunting) and continue to the age of school children with various consequences (5). Stunting is more commonly found in children that not given exclusive breastfeeding, this can be explained because breastfeeding as an anti-infection has the potential to reduce the risk of stunting (6).

Various studies in the field of nutrition and health show that to be able to live a healthy and productive life, humans need around 45 nutrients that must be obtained from the food consumed, and not one type of food is able to meet all the nutritional needs of humans. By consuming a variety of foods every day, the lack of nutrients in one type of food will be complemented by the superiority of the composition of other types of nutrients, so that a balanced input of nutrients is obtained (7). The purpose of the preparation of this review is to be able to understand the results of a review of nutrition fulfillment in the case of stunting in Indonesia based on literature 2015-2019.

MATERIALS AND METHODS

The method used in this Literature Review begins with topic selection, then keyword determination to search for articles using English and Indonesian through several databases including Google Scholar found 164 articles, SpringerLink found 248 articles, ScienceDirect found 16 articles, Sage Journals Online found 9 articles, and the International Journal of Science and Research (IJSR) found no articles. Search for this article is limited from 2015-2019. The English keywords used are "appropriate nutrition", "stunting", "Indonesia", for the Indonesian language use the keywords "fulfillment of nutrition", "stunting", "Indonesia". The article was chosen for review based on the inclusion criteria, namely the fulfillment of nutrition in the case of stunting in Indonesia. All articles obtained were adjusted to the inclusion criteria based on PICO (P: stunting in Indonesia; I: nutrition fulfillment; C: physical condition of stunting sufferers; O: effectiveness of nutritional content). A search using the above keywords found a total of 437 articles, and adjusted to the inclusion criteria to obtain four articles in the form of journals. All four articles are then observed and performed with Critical Appraisal.

RESULT AND DISCUSSION

This literature review uses 4 research articles with case study methods. This article is sourced from research conducted in Indonesia with the distribution of 2 articles from Yogyakarta province, 1 article from West Kalimantan province, and 1 other article from Lampung province.

In the first article discusses the relationship between the level of diversity of food consumption of the incidence of stunting in infants in Sleman, Yogyakarta, Indonesia. This type of observational study uses a cross sectional design with a sample of 39 toddlers. The instrument used was the PPH (Hope Food Pattern) score form and a 24-hour recall form to see diversity, the incidence of stunting was obtained using the TB / U index from TB anthropometric measurements. The distribution of the expected food patterns of the aspect of food diversity was found to be 18 children under five (46.2%) and 21 children under five (53.8). While the incidence of stunting in toddlers there are 11 people (28.2%) and normal toddlers as many as 28 people (71.8). In the diverse food consumption category there are 21 toddlers, including 20 toddlers with normal nutritional status,

and only 1 toddler in the stunting category. In the non-diverse food consumption group there were 28 toddlers, including 8 toddlers with normal nutritional status and 10 stunted toddlers. The conclusion of the research article is that there is a relationship between the level of diversity of food consumption of the incidence of stunting in infants (8).

The second article about the relationship of feeding patterns of stunting cases of toddlers aged 36-59 months in Wonosari, Yogyakarta, Indonesia. This type of correlation study research with cross sectional approach, using a sample of 30 respondents mothers and toddlers. The research tool uses questionnaire feeding patterns and metlin with data analysis using Kendall know. The study found 11 mothers (36.7%) with good feeding patterns, 12 mothers (40%) with adequate feeding patterns, and a total of 7 mothers (23.3%) with poor feeding patterns. Whereas found 24 toddlers (80%) categorized as short, and 6 toddlers (20%) categorized as very short. These results are in line between the pattern of feeding given by the mother and the physical condition of the toddler with stunting. The conclusion of the research article is that there is a relationship between feeding patterns and stunting in children aged 36-59 months (9).

In the third article discusses the intake of protein, calcium, and phosphorus related to the incidence of stunting at the age of 24-59 months in the city of Pontianak, Indonesia. Analytic observational research with cross sectional design, using a sample of 90 toddlers. The prevalence of stunting in the low protein intake group was 1.87 times greater than in the adequate protein intake group. The prevalence of stunting in the low calcium intake group was 3.625 times greater than the adequate calcium intake group, and the stunting prevalence in the low phosphorus intake group was 2.29 times greater than the adequate phosphorus intake group. The study concluded that the intake of protein, calcium, and phosphorus was significantly lower in stunting children than in non-stunting children aged 24-59 months in Pontianak (10).

In the fourth article discusses the lack of food intake as a cause of the incidence of stunting in Bandar Lampung, Indonesia. The study design was used analytic observational with cross sectional approach. The sample of this study is a pair of mothers and children aged 2-5 years of 48 people, and the measuring instrument using a food frequency question, check sheet and microtois list. The study produced several explanations related to vitamin A, protein, and iron in relation to the incidence of stunting. Toddlers who lack vitamin A intake will be 17.5 times more at risk of suffering from stunting when compared to toddlers who have enough vitamin A intake. Toddlers who lack protein intake are 10 times more at risk of suffering from stunting when compared to toddlers who have enough protein intake. Toddlers who lack iron intake 4.54 times more at risk of suffering from stunting when compared to toddlers who have enough iron intake. In that study mentioned several nutritional intake that has nothing to do with the incidence of stunting including calories, carbohydrates, and zinc (11).

IMPLICATIONS FOR NURSING PRACTICE

Literature review has implications for nursing practice, in this case especially the pediatric nursing. Toddlers with diverse food intake will have better nutritional status. Food diversity will complement the lack of nutrients from one type of food and supplemented by similar nutrients from other foods. This should be arranged properly so that toddlers also do not get bored quickly with certain types of food. Knowledge and ability to manage healthy food for toddlers is also important, various ways of cooking can affect the nutritional content in cooked food. Mother of toddlers often insert vegetable ingredients before boiling vegetable broth, this shows a lack of understanding in how to cook so that it affects the nutritional content in cooked food. Food processing will provide several benefits, for example improving nutritional value and digestibility, improving taste and aroma, and extending shelf life (12).

Food given to toddlers is not only full, but also must contain nutrients both macronutrient and micronutrient needed by the body. Various nutritional content including protein, calcium, phosphorus, vitamin A, and iron. The habit of children consuming milk contributes protein to stunting children at 7.67 g / day and in children not stunting at 16.73 g / day. Protein intake provides the amino acids the body needs to build bone matrix and influence bone growth (13). Milk and milk products are also a major source of calcium, besides fish and seafood sources also contain more calcium than beef or chicken. During growth, demands for bone mineralization are very high, very low calcium intake can cause growth retardation (14). In the long run, high intake of phosphorus can cause low bone quality, especially if calcium intake is inadequate (15). Vitamin A functions in the maturation of cells new. Vitamin A deficiency can cause impaired growth function which

causes toddler height is lower than normal (stunting). Besides the function of iron is useful for carrying oxygen and nutrients to cells throughout the body. If iron intake is reduced, it will cause iron deficiency anemia which affects the disruption of activity and growth hormone (16).

The results of this review will add to our knowledge that the community, especially the aggregate of mothers, plays an important role in the development of toddlers. Nurses can act as educators in an effort to increase maternal knowledge related to food management and nutritional content that must be met during infancy. As a facilitator, nurses facilitate supplementary feeding through the toddlers posyandu program. As an advocate, nurses can play a role in monitoring the development of infants and protecting the rights of the community related to nutritional needs to be met through participation in government programs.

CONCLUSION

After conducting a review of the four journals, the conclusions that can be delivered include:

1. Foods can be categorized as meeting the nutritional needs of toddlers if they consist of a diversity of energy, builders, and regulators.
2. Fulfillment of toddler nutrition does not only depend on the nutritional content, but also depends on processing how to cook and serve.
3. Nurses can act as educators, facilitators, and advocates in efforts to meet the nutritional needs of toddlers.

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