p-ISSN : 2656-9051 e-ISSN: 2775-6874 Vol. 3 No. 2, September 2021

A CRITICAL REVIEW OF STUNTING, RISK FACTORS AND PREVENTION ON TODDLERS IN INDONESIA

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ABSTRACT

WHO states that the issue of stunting occurs in developing countries, including Indonesia. Indonesia has positioned the fifth country with the highest burden of stunting in toddlers. Stunting is a chronic nutritional problem caused by a lack of nutritional intake for a long time. Stunting is a form of malnutrition is characterized by short stature in toddlers. Stunting in toddlers increases morbidity and mortality rate. It can lead to poor intelligence, productivity, degenerative diseases. The purpose of this study is to review risk factors and prevention on stunting toddlers in Indonesia. This study was carried out through a literature study, and then the results of this study was reviewed using the description method. This paper gives an insight into the risk factors and prevention of stunting toddlers in Indonesia. Nutrition is a top national priority in preventing stunting in Indonesia, carried out with a multisectoral approach. Stunting prevention must start long before toddlers is born. and even from adolescence in order to break the chain of stunting in the life cycle. Given the complex risk factors for toddler stunting, public health nutrition lessons need to be included in the school curriculum.

Keywords: Stunting, Malnutrition, Toddler, Risk Factor, Prevention

INTRODUCTION

According to World Health Organization (WHO) database, in 2018, there are 149 million toddlers in the world who got stunting. In 2017, more than half of stunting toddlers in the world is coming from Asia, it is over 55%. The issue of stunting occurs in developing countries including Indonesia. While the average stunting prevalence in Southeast Asia from 2005-2017 was the highest, that Timor Leste is almost 50,2%, then India with an average prevalence of 38,4%, and the third was Indonesia with an average prevalence above 36,4% (WHO, 2018).

Toddlers are said to be stunted if their height is more than two standards of the WHO for a child by age and sex. Stunting could inhibit linear growth, development and degenerative diseases later in adulthood. Based on the results of several studies mention that one of the causes of stunting in children is due to not fulfilling good nutrition in a long period of time and often is not realized by their parents so that after children aged over 2 years, it appears that their toddlers experience stunting (Budiastutik et al., 2019). Stunting will affect increasing mortality, morbidity, and in toddlers, the development will be affected of development cognitive-motor and language, while the long term influencing in the health sector is the short growth, lack of reproduction, and increased risk of obesity and degenerative disease in the future. Stunting in toddlers must be getting special attention because it can be caused stunted physical growth, mental growth. Toddlers' stunting is also associated with an increase in toddlers' vulnerability to diseases both infection and obesity (Trihono et al., 2016).

Stunting in toddlers is chronic, so it can affect the cognitive function of toddlers at which level low intelligence and impact on quality human resources. Stunting problems that occur in Indonesia will be public health problems that must be done seriously and continuously handling. Therefore stunting, risk factors, and prevention in children are discussed in this paper.

RESEARCH METHOD

The researcher used the WHO toddlers stunting framework (Beal et al.,

2018) to organize studies with an outcome of toddlers stunting or linear growth into the appropriate risk factors and prevention categories and identify knowledge gaps (Figure 2). The study was carried through a literature study, and then to resulting of this study as used as the description method. This article is intended to review the recent literature to determine what has been studied and can be concluded about the risk factors and prevention on toddler stunting in Indonesia.

RESULTS AND DISCUSSION

WHO said that Indonesia is considered to have a high prevalence of stunting (30-39%). The reduction of stunting prevalence has been slowly progressing in the last ten years (Titaley et al., 2019). In fact, almost in every province shows surge stunting. Toddlers in Indonesia are stunted 32.2% (Budiastutik et al., 2019; Kemenkes RI, 2013; Kemenkes RI, 2018; Satriani, 2019) (Figure 1).

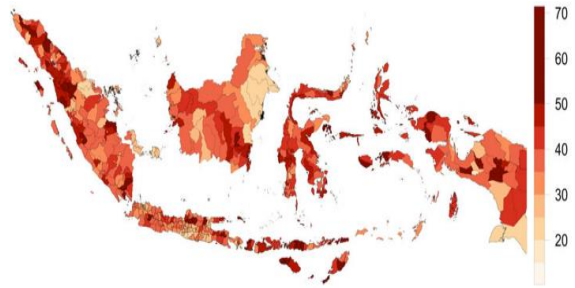

Figure 1. Prevalence of stunting (%) in children 0-59 months by the district in 2013 (Kemenkes RI, 2013)

Toddlers are said to be stunted if their height is more than two standards of the WHO for a toddler by age and gender. There are many factors that influence the occurrence of stunting, which are direct or indirect factors. Direct factors include nutritional intake, history of infectious disease. Adequate nutritional intake is commonly needed for the growth and development of toddlers. This is a critical part where the children growing and developing. Toddlers who got malnutrition will result in permanent disability. The second factor is the history of infectious disease. Infection and fulfillment of nutritional intake are two interrelated things. Toddlers with malnutrition will be more susceptible get an infection. Research results prove that heredity contributes 15%, the main cause of stunting is lack of substance intake nutrition, growth hormone, and the presence of infectious diseases (Aridiyah et al., 2015). Indirect factors that affect of stunting that is environmental sanitation and immunization status. Lack of sanitation and environmental hygiene can trigger digestive disorders that make the energy growth shifted to fight infection (Dearden et al., 2017). The variable influence of cigarette smoke exposure as well smoke pollution also influences the incidence of stunting but not much further research has been done (Budiastutik et al., 2019)(Figure 2).

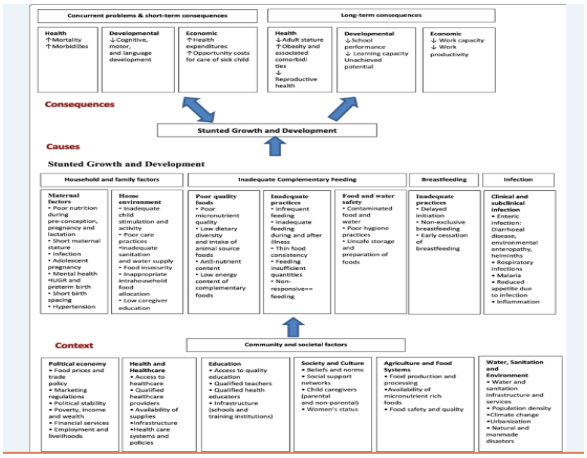

Figure 2. WHO conceptual framework on Toddlers Stunting: Context, Causes, and Consequences (Beal et al., 2018; Korachais, 2021; Stewart et al., 2013)

Based on the WHO Conceptual Framework on Toddlers Stunting (Figure 2), Beal et al. (2018) state that the risk factors for stunting in Indonesia are consistent evidence suggests nonexclusive breastfeeding for the first the 6 months, low household socio-economic status, premature birth, short birth length, low maternal height, and education are particularly important toddlers stunting risk factor in Indonesia. The result of malnutrition in

toddlers is permanent and difficult to fix (Kemenkes RI, 2018). Stunting is caused by multi-dimensional factors and not only caused by malnutrition factors. One of the causes of increased stunting in toddlers was due to inadequate nutritional intake in the along period. While WHO stipulates that nutrition problems not exceed 20%. Indonesia has severe nutritional problems characterized by the number of malnutrition cases. Malnutrition is one of the less common causes of toddler morbidity and mortality in the world. Stunting is the most common form of malnutrition. Stunting is one of the state of malnutrition associated with past nutritional insufficiency that is included in chronic nutritional problems. The risk factor for toddler stunting in developing countries is exclusive breastfeeding, socioeconomic, low birth weight, length of birth, low maternal education, infectious disease (Budiastutik et al., 2019; Sutarto et al., 2018).

The critical consequences of stunting have led to the setting of global nutrition targets to reduce the number of stunted toddlers by 40% by 2025. This global target has since been further supported by the Sustainable Development Goal 2, Target 2: "By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting in toddlers" (WHO, 2014). Nutritional problems are very thing complex and important to overcome immediately, especially because Indonesia is one of the countries that have the most complete nutritional problems such as anemia (iron deficiency), deficiency of chronic energy, obesity (overweight) and stunting (UNICEF, 2015).

The results of the research conducted in Indonesia and Thailand show that intake of Zn and Fe was lacking influence against the occurrence of stunting in toddlers (Aridiyah et al., 2015). While other studies indicate that there is a significant difference between protein intake on toddler stunting and not stunting (Cahyono et al., 2016). Based on the results of a study that has been done by some researchers point out that the level of adequacy of intake of nutrients which do not meet the needs (energy, protein, Fe, and Zn) increases the risk of stunting on toddlers. The lack of provision of foodstuffs containing nutrients to the low food intake triggers provided by mothers to their toddlers. There is a disparity between the risk factors of stunting toddlers in the coast and mountain areas. Poor nutritional intake increases the risk of stunting so it is necessary to increase the consumption of food sources of nutrients for toddlers (Satriani et al., 2019). Abeway et al. (2018) mention states that the initiation of inappropriate complementary feeding is directly related to stunting.

Heredity accounts for 15%, the main cause of stunting is a lack of nutrient intake, growth hormone, and the presence of infectious diseases (Budiastutik et al., 2019). Therefore, the Ministry of Health of the Republic of Indonesia prioritizes health nutrition programs in overcoming stunting in toddlers (Kemenkes RI, 2018). Toddlers stunting reduction is the first of 6 goals in the Global Nutrition Targets for 2025 and a key indicator in the second Sustainable Development Goal of Zero Hunger (Beal et al., 2018). Nutrition is a top national priority in preventing stunting in Indonesia, carried out with a multisectoral approach. Stunting prevention must start long before toddlers are born. and even from adolescence in order to break the chain of stunting in the life cycle. Given the complex risk factors for toddler stunting, public health nutrition lessons need to be included in the school curriculum.

CONCLUSION

Indonesia has a high prevalence of stunting (39%). In fact, almost in every province shows as surge stunting. the main cause of stunting is lack of substance intake nutrition, growth hormone and the presence of infectious diseases. Nutrition is a top

national priority in preventing stunting in Indonesia, carried out with a multisectoral approach. Stunting prevention must start long before toddlers is born. and even from adolescence in order to break the chain of stunting in the life cycle. Given the complex risk factors for toddler stunting, public health nutrition lessons need to be included in the school curriculum.

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