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ANALYSIS OF FACTORS ASSOCIATED WITH THE INCIDENCE OF STUNTING AMONG TODDLERS IN MARO SEBO DISTRICT A STRATEGY TO ACCELERATE STUNTING PREVENTION USING THE HOPE (*HUMANITY, LOVE, PEOPLE POWER*) APPROACH

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ABSTRACT

Background: *Stunting is a condition of impaired growth resulting from chronic malnutrition and recurrent infections, which can hinder children's physical development and increase their risk of disease. This study aims to identify the factors contributing to stunting among toddlers at the Jambi Kecil Health Center, Muaro Jambi Regency.*
Methods: *This research is a quantitative analytical study with a case-control design, conducted in Maro Sebo District to analyze the factors influencing stunting among toddlers. The sample consisted of 136 toddlers, comprising 68 cases and 68 controls, selected through purposive sampling. Data were analyzed using the Chi-square test, or Fisher's exact test when the assumptions of the Chi-square test were not met.*
Results and Discussion: *The study found that stunting was more prevalent among toddlers who did not receive exclusive breastfeeding (63.8%), were born with low birth weight (62.3%), frequently experienced illness (67.3%), were malnourished (91.7%), had parents with low educational attainment (58.0%), and came from families with low economic status (59.8%). All of these factors were significantly associated with the incidence of stunting in the service area of the Jambi Kecil Health Center.*
Conclusion: *Stunting among toddlers in the Jambi Kecil Health Center area is influenced by the lack of exclusive breastfeeding, low birth weight, frequent illness, inadequate nutritional intake, low parental education, and poor socio-economic conditions. These findings are expected to serve as a reference for the Health Center in developing strategies to address stunting and to strengthen cross-sector collaboration.*

Keywords: *Factors, Stunting, Toddlers*

INTRODUCTION

Stunting is a condition characterized by failure to thrive in children, caused by chronic malnutrition. The problem of stunting in Indonesia is quite serious, as the number of children affected by stunting remains high (Beal et al., 2018). According to data from the Indonesian Ministry of Health in 2020, the prevalence of stunting among children under the age of five reached 27.7% (Devi et al., 2022).

The causes of stunting can vary, but some contributing factors include a lack of balanced nutrition, particularly protein and iron; chronic infections, such as recurrent diarrhea or respiratory infections; and poor sanitation. Additionally, limited access to healthcare, education, and quality food can also increase the risk of stunting in children (KemenkesRI, 2019).

To address the problem of stunting in Indonesia, the government has implemented various efforts, such as increasing access to health and nutrition services, raising public awareness about the importance of balanced nutrition, and improving the availability of nutritious and affordable food (Devi Artanti et al., 2022). Additionally, the government has launched programs such as the Supplementary Food Provision Program (PMT) and the Family

Hope Program (PKH), both of which aim to improve the nutrition and welfare of disadvantaged families (BPN, 2013).

Comprehensive efforts by the Jambi Provincial Government are needed, involving the community, as well as the private sector and community organizations. These efforts include increasing access to and consumption of nutritious food, raising public knowledge and awareness of the importance of good nutrition, improving access to health and nutrition services, and supporting the improvement of sanitation and environmental cleanliness (UNICEF, 2018). Additionally, a cross-sectoral approach involving the education, health, food, and sanitation sectors must also be implemented to reduce stunting rates in Jambi Province.

The Muaro Jambi Regency Government has shown a strong commitment to reducing stunting rates in Indonesia. The government plays a crucial role in implementing stunting prevention programs and facilitating various efforts to improve children's health and nutrition. With the commitment and continuous efforts of the local government, it is hoped that the stunting rate in Indonesia will continue to decline, allowing Indonesian children to grow and develop optimally.

HOPe (Humanity, Love, People, Power) service is an innovation in the health sector designed to facilitate behavioral changes and promote efforts to reduce stunting related to public health management. Health center staff can use this service to assist in implementing public health initiatives.

The use of the HOPe service is expected to encourage community participation in independent screening and prevention, while also increasing public awareness in optimizing health, thereby helping to minimize healthcare costs. This health service facilitates access and is consistently available to provide support to the community, with the goal of reducing the number of stunting cases

Jambi Kecil Health Center oversees 12 villages in the Muaro Sebo sub-district. One of its key efforts to reduce stunting is by providing health services for mothers and toddlers. The approach, known as HOPE (Humanity, Love, People, Power), is designed to deliver service activities that reach all community groups. At the same time, it emphasizes 'People Power' or community strength, as the main driver in implementing these activities. HOPE activities include promotive and preventive efforts and encompass all forms of service delivery aimed at accelerating the reduction of stunting within the Jambi Kecil Health Center’s service area.

METHODS

This study employed a quantitative observational analytic research design with a case-control approach. The population consisted of all toddlers who underwent examinations and had their data recorded at the Jambi Kecil Health Center. The total sample size was 136 toddlers, comprising 68 case samples and 68 control samples. The sampling technique used was non-random sampling with a purposive sampling method. Bivariate analysis was conducted using the Chi-square test; if the assumptions for the Chi-square test were not met, the Fisher’s exact test was applied.

RESULTS AND DISCUSSION

Research shows that stunting is more prevalent among toddlers who did not receive exclusive breastfeeding (63.8%), were born with low birth weight (62.3%), frequently experience illness (67.3%), are malnourished (91.7%), have parents with low educational attainment (58.0%), and come from families with low economic status (59.8%).

The results of this study indicate a significant relationship between a history of exclusive breastfeeding (p=0.009), low birth weight (p=0.035), history of infection

(p=0.002), poor nutritional status (p=0.000), low parental education level (p=0.020), and family economic status (p=0.004) and the incidence of stunting in the Jambi Kecil Health Center's service area.

Factors that contribute to stunting can be classified as either direct or indirect. Direct causes include inadequate nutritional intake and infectious diseases, while indirect causes include parenting practices, access to health services, food availability, cultural influences, economic conditions, and other related factors (WHO, 2014). Nutritional problems are often accompanied by infectious diseases that exacerbate the condition (UNICEF, 2020).

Malnutrition and bacterial infections of the digestive and respiratory tracts are serious public health concerns. The increased incidence and severity of infections in malnourished children are largely attributed to impaired immune system function (Rodríguez et al., 2011). Undernutrition, accompanied by chronically inadequate intake, can lead to weakened immunity in toddlers, making recurrent digestive infections (such as diarrhea) detrimental to the child's growth and development (Guerrant et al., 2014).

Infectious diseases are a leading cause of morbidity and mortality in developing countries, particularly among children. Increasing evidence suggests that protein-calorie malnutrition is a key factor contributing to the heightened susceptibility to infections in these regions. Moreover, certain infectious diseases can also lead to malnutrition, creating a vicious cycle (Rodríguez et al., 2011)

Poor nutritional status is a significant risk factor for the occurrence of acute respiratory infections (ARI). Toddlers with malnutrition are more susceptible to ARI compared to those with normal nutritional status, due to compromised immune system function. Infectious diseases can reduce a toddler's appetite, leading to further malnutrition (Siddiq & Nuzul, 2018). Children who have experienced ARI often show symptoms such as colds, fever, and cough. This condition can affect their nutritional intake, which tends to be suboptimal during illness (Tadi et al., 2023).

Optimal nutrition during the first 1,000 days of life (from conception to the second birthday) is essential for the healthy development and lifelong well-being of infants. During pregnancy and the postpartum period, physiological changes, increased energy demands, and shifts in nutritional requirements are critical to supporting the optimal growth and development of infants and toddlers (Beluska-Turkan et al., 2019).

Exclusive breastfeeding is considered to reduce the risk of stunting because breast milk contains antibodies and calcium with high bioavailability, optimizing nutrient absorption, particularly for bone formation (Damayanti et al., 2017). The timing of introducing complementary foods (MP-ASI) and exclusive breastfeeding are factors associated with the incidence of stunting in toddlers.

Parents with low levels of education, such as those prevalent among the majority of the population in the Jambi Kecil Health Center's service area, typically have education levels equivalent to junior high or elementary school. This can influence their child-rearing practices, which in turn impacts child development. Research conducted by Hardinata (2023) indicates that parental education level is a crucial factor influencing the incidence of stunting in Indonesia. Higher levels of parental education can significantly reduce the risk of stunting in children.

The family's economic status also influences the incidence of stunting in the Jambi Kecil Health Center's service area. According to UNICEF, low family economic status is linked to an increased risk of children experiencing low weight and height (UNICEF, 2020)

All of these factors are significantly associated with the incidence of stunting in the Jambi Kecil Health Center's service area.

CONCLUSION

Stunting among toddlers in the Jambi Kecil Health Center's service area is influenced by factors such as lack of exclusive breastfeeding, low birth weight, frequent illness, inadequate nutritional intake, low parental education, and poor socio-economic conditions. These findings are intended to guide the Health Center in developing strategies to address stunting and strengthen cross-sector collaboration.

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CONFLICT OF INTEREST

All author declarates no conflict of interest

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