FACTORS AFFECTING STUNTING INCIDENCE IN KEDUNGMALING VILLAGE, MOJOKERTO, INDONESIA IN 2022

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ABSTRACT
Background: Stunting is a condition of failure to thrive in toddlers due to chronic malnutrition in the long term. Besides malnutrition, stunting is also affected by exposure to repeated infections and lack of stimulation. According to the Indonesian Nutritional Status Study, the prevalence of stunted toddlers in Indonesia is 24.4% in 2021. Malnutrition at an early age increases child mortality and causes them to get sick easily. Stunting has many causes. This study aims to find the factors of stunting which is expected to prevent it, so the growth and development of children in Kecamatan Sooko is optimal and maximal.

Method: This study uses an observational analytic method with a cross-sectional design. The sample is the parents of toddlers aged 6-59 months in Kecamatan Sooko, Kabupaten Mojokerto. Data was taken through filling out a questionnaire. The data obtained was carried out by univariate analysis using the IBM SPSS v23 application.

Results: There were 60 respondents, with 7 parents of stunting toddlers. From the analysis of exclusive breastfeeding, level of education, and level of knowledge of mothers regarding the fulfillment of under-five nutrition, p = 0.02, p = 0.045, and p = 0.006 respectively.

Conclusion: Factors of exclusive breastfeeding, level of education, and level of mother's knowledge of fulfilling toddler nutrition are related to the incidence of stunting in Kecamatan Sooko, Kabupaten Mojokerto.

Keywords: Stunting, knowledge, exclusive breastfeeding, level of education

1. INTRODUCTION

Stunting is a condition of failure to thrive in toddlers due to chronic malnutrition in the long term. Apart from malnutrition, stunting is also affected by exposure to repeated infections and lack of stimulation. The process of becoming stunted occurs when the fetus is still in the womb and only appears when the child is two years old. Stunted and severely stunted toddlers are toddlers with body length (PB/U) or height (TB/U) according to their age compared to WHO standards. Malnutrition from an early age that becomes chronic can cause sufferers to get sick easily, have not optimal body posture as adults or even increase infant and child mortality (Indonesia Ministry of Health, 2022).

According to the results of the Indonesian Nutrition Status Study (SSGI) from the Indonesia Ministry of Health, the prevalence of stunted toddlers in Indonesia is 24.4% in 2021. Thus, almost a quarter of toddlers in the country are stunted in 2021. This percentage has decreased compared to the previous year in 2020, the prevalence of stunting in Indonesia is predicted to still be 26.92%. Meanwhile, looking at the trend, the prevalence of stunting in Indonesia had jumped to 37.2% in 2013 and 30.8% in 2018. However, the numbers have tended to decrease in recent years. Currently 1 in 4 Indonesian children is stunted or approximately 5 million Indonesian children are stunted, while the government is targeting the prevalence of stunting in Indonesia to fall to below 14% in 2024, so the target to reduce the prevalence of stunting every year should be around 2.7% (Indonesian Nutritional Status Study, 2021).
Stunting is a preventable problem. Currently, as many as 23% of babies are born stunted, so intervention must begin before the baby is born—even when the girl is still in her teens. The condition of a short child's body is often said to be a hereditary or genetic factor so that people tend to accept the situation without trying to find solutions to stunting. Even though according to the H-Blum theory there are many other factors besides genetics, namely lifestyle, environmental (social, economic, cultural, political) behavior, and health services which also influence the emergence of a disease. (Indonesian Nutritional Status Study, 2021).

Mothers who experience malnutrition during adolescence, pregnancy, or lactation will greatly affect the growth of the child's body and brain. In addition, stunting is also influenced by the mother's occupation and education, father's and mother's height, income, number of household members, parenting style, and exclusive breastfeeding. Low access to health services including access to sanitation, clean water, antenatal care, postnatal care and low access to nutritious food also affect children's growth. The most decisive intervention in preventing stunting is at 1000 HPK (1000 first days of life). Another cause of stunting is the problem of nutritional intake consumed during infancy. When nutritional intake is inadequate it will affect physical growth in children. The presence of infectious diseases is also associated with the incidence of stunting. Currently the most common infection problems in children are diarrhea, upper respiratory infections, helminthiasis and others (Ministry of Health, 2022).

With these various factors, the researchers wanted to find out which factors influenced the incidence of stunting in the working area of the Sooko Community Health Center, Mojokerto Regency so that the handling of stunting in that area could be carried out more specifically and directed. This effort aims to enable Indonesian children to grow and develop optimally and maximally, accompanied by emotional, social and physical abilities that are ready to learn, and able to innovate and compete at the global level.

II. RESEARCH METHODOLOGY

Population and Sample
The population of this study were mothers with toddlers aged 6-59 months in Kedungmaling Village, Sooko District, Mojokerto Regency. The sample of this study were mothers with children aged 6-59 months in Kedungmaling Village, Sooko District, Mojokerto Regency, who were cooperative and willing to fill out questionnaires. The minimum sample size used in this study was calculated based on the Lemeshow formula so that a minimum sample size of 59 was obtained. The sampling technique for this study was accidental sampling, in which each element of the sample taken was those who happened to be found or easily found or reached.

Data and Sources of Data
For this study primary data has been collected. Data collection was carried out by in-depth interviews using a questionnaire instrument which was filled in by the researcher as the interviewer. Interviews were conducted face-to-face and were conducted Monday to Tuesday December 12 2022 to December 13 2022.

Statistical tools and econometric models
The data that has been collected is edited, coding, entered, and cleaned and analyzed using statistical data processing software (IBM SPSS Version 27.0). Data were processed using the Spearman correlation test.

III. RESULTS AND DISCUSSION

Results of Descriptive Statics of Study Variables
The distribution of the characteristics of the respondents which includes the mother's last education, monthly income, parenting style, breastfeeding, level of knowledge, and nutritional status of the mother. The majority of mothers' education is high school (71.7%) and earn less than IDR 2,500,000 per month (58.3%). Most of the mother's parenting styles are in the moderate category (55%) with exclusive breastfeeding for 6 months (70%). Most of the mother's level of knowledge is lacking (58.3%). Most of the nutritional status of children under five was normal (88.3%).
The Relationship between Stunting and Parenting

In this study, Spearman's analysis was used, which was significant if the p value <0.05. The results of this study statistically obtained p = 0.045, which means that there is a significant relationship between education level and stunting.

It was found that there was no relationship between parenting style and the incidence of stunting with a p = 0.438. This study is in line with research conducted by Hayyudini et.al which showed that parenting style has no effect on the presence of stunting (Hayyudini et.al, 2017). However, other studies show that there is no significant difference between good parenting styles for the nutritional status of normal and stunting children (Masrul, 2019). Another study shows that parenting has an effect on stunting as a result of parents paying little attention to children's wishes, nutritional needs, and attention to children (Noorhasanah, 2021). Some parenting styles that are democratic or permissive can improve good communication between children and parents, so that children's appetite increases and indirectly improves the quality of children's nutrition (Pebriani et al., 2021 and Salsabila, et.al, 2021). In addition, parenting style can also be influenced by behavioral factors from parents. Apart from good parenting, stunting still has the possibility of occurring in children due to internal factors such as genetic factors (Salsabila, et.al, 2021).

Relationship between stunting and exclusive breastfeeding

In this study, Spearman's analysis was used, which was significant if the p value <0.05. The results of this study statistically obtained p = 0.012, which means that there is a significant relationship between the level of exclusive breastfeeding and stunting.

In this study, it was found that there was a relationship between exclusive breastfeeding and the incidence of stunting (p=0.012). This is in line with research conducted by Sample which showed a relationship between exclusive breastfeeding and the incidence of stunting in toddlers. An odds ratio value is obtained with the conclusion that toddlers who are not exclusively breastfed have a 61x chance of experiencing stunting compared to toddlers who are exclusively breastfed. Breast milk is natural food that is good for babies, practical, economical and easy to digest, has an ideal composition of nutrients according to the needs and abilities of the baby's digestion. Breast milk supports baby growth, especially height because the calcium content in breast milk is more efficient for absorption than breast milk substitutes (Prasetyono, 2009). Breast milk is a nutritional intake that is in accordance with the needs of children's growth and development. Breast milk contains more calcium and can be absorbed by the body better so that it can maximize growth, especially height so that the risk of stunting can be avoided.

The Relationship between Stunting and Education Level

In this study, Spearman's analysis was used, which was significant if the p value <0.05. The results of this study statistically obtained a value of p = 0.045 which means that there is a significant relationship between economic level and stunting.

In this study, it was found that there was a relationship between stunting and education level (p=0.045). This is in line with research by Laksono et al., 2019 which states that the level of maternal education is related to the incidence of stunting in children under 2 years of age. Another study states that the mother's education level is the main predictor of stunting (Abuya et al., 2012). Highly educated mothers have a variety of resources that can be used to obtain information, especially for child growth and nutrition. Higher education makes mothers more confident and wise in making decisions to improve family welfare. (Argaw et al., 2022). Research in Padang shows that mother's education is related to fulfilling toddler nutrition (Putri et al., 2015). A meta-analysis study states that the lower the mother's education has an effect on the incidence of stunting in toddlers (Azizah et al., 2022). Higher education plays a very important role in parenting and ease of receiving information and applying it in toddler health (Sari et al., 2020).

Relationship between stunting and economic level

In this study, Spearman's analysis was used, which was significant if the p value <0.05. The results of this study statistically obtained a value of p = 0.193 which means that there is no significant relationship between economic level and stunting.

In this study, it was found that there was no relationship between the economic level of the family and stunting (p = 0.193). These results are in line with the study by Ibrahim and Faramita which showed that there was no significant relationship between income level and the incidence of stunting in children (Ibrahim and Faramita, 2015). Families with low income usually consume food at relatively lower prices with less varied menus. In contrast to families with higher incomes who generally consume food at higher prices. High income
will not always increase children's consumption of nutrients, but increased income will increase the opportunity to be able to choose foodstuffs and increase consumption of preferred foods. (Krisnana et. al, 2020; Ibrahim and Faramita, 2015). Some families with large incomes tend to buy poor quality food which can affect the nutritional status of children (Anwar Ibrahim, Irviani, 2015). Not all families with large incomes can allocate this money to meet family needs towards health such as quality food and easy access to health workers (Krisnana, et al, 2020). Another study found a relatively weaker relationship between socioeconomic conditions and the incidence of stunting in children in Kyrgyzstan. This can be explained by the investment in primary care facilities and underdeveloped regional hospitals in Kyrgyzstan (Li et al, 2020). Another study found a relationship between economic level and stunting. Low economic level causes limitations to obtain food with animal sources (Dekker, et al, 2010). Consumption of food with animal sources improves nutritional status and growth in children because infants and toddlers are an age group that is sensitive to the quality of food consumed by families (Neumann, et al, 2007; Kim et al., 2017).

The Relationship between Stunting and Mother's Knowledge Level on Toddler Nutrition Fulfillment

To see the relationship between the level of mother's knowledge on the fulfillment of toddler nutrition and stunting, this study used Spearman's analysis which is significant if the p value <0.05. The results of this study statistically obtained a value of p = 0.006 which means that there is a significant relationship between the level of mother's knowledge of toddler nutrition and stunting.

In this study, it was found that there was a significant relationship between the level of mother's knowledge of fulfilling toddler nutrition and the incidence of stunting (p = 0.006). This is in line with research from Saaka in Ghana which shows that increasing mothers' knowledge about childcare through nutrition/health education can make a significant contribution to a child's nutritional status if there is also an increase in their socioeconomic situation (Saaka, 2015). Another supporting study was that conducted by Rahayu, in Cempaka City, which showed a positive relationship between mother's knowledge of nutrition and the incidence of stunting (Rahayu, 2016). This is because knowledge of nutrition will affect food production and expenditure of funds for food. Meanwhile, food ingredients will be affected by food production and spending money on food. Mothers with good nutritional knowledge are expected to be able to choose food intake with good nutritional value and balance. Good nutritional knowledge can help someone to know how to store, process and use food that meets the requirements for consumption. This also affects food ingredients that do not vary and eating patterns and only one that plays a role in the occurrence of stunting (Rahayu et al, 2016). Other supporting research is Aprilina (2021). Good mother knowledge is expected to change the provision of nutritious food following important elements in optimizing child development, especially zinc adequacy to optimize bone growth, as the level of zinc adequacy is related to the prevalence of stunting in children under five. both in rural and urban areas (Aprilina et al, 2021).

In this study there were limitations, namely the researcher used a cross-sectional method, so that he only collected data at one time and could not see the cause or effect variables.

IV. CONCLUSION

Based on the results of our research with respondents of 60 mothers with toddlers in Sooko District, it was found:
There is a significant relationship between exclusive breastfeeding and stunting.
There is a significant relationship between the level of education and the incidence of stunting.
There is a significant relationship between the mother's level of knowledge on the nutritional fulfillment of toddlers and the incidence of stunting.
There is a significant relationship between the Economic Level and the incidence of Stunting.
There is a significant relationship between parenting style and stunting.

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