ANALYSIS OF RISK FACTORS RELATED TO THE EVENT OF STUNTING IN TODDLERS IN CENTRAL BENGKULU REGENCY

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Abstract

Background: Stunting is a growth and development disorder in children due to chronic malnutrition and repeated infections, which is characterized by a length or height that is below the standard. The prevalence of stunting in five years old children in Bengkulu Province based on the results of the 2021 SSGI is 22.1% and the prevalence of stunting toddlers in Central Bengkulu Regency is 25.5%. This study aims to analyze the risk factors associated with the incidence of stunting in Pagar Jati District, Central Bengkulu Regency.

Methods: Analytical observational method with a cross-sectional design approach. The sample is children aged 12-59 months in the sub-district of the priority locus of stunting prevention in Central Bengkulu Regency, totaling 50 samples. Data analysis used Chi-Square test with 95% confidence level (α=0,05%).

Results: The results of the statistical test of the Exclusive Breastfeeding variable obtained a p value of 0.010 <0.05, meaning that there is a relationship between Exclusive Breastfeeding and Stunting Incidence in Pagar Jati District, Central Bengkulu Regency, the mother’s knowledge of nutrition variable obtained a p value of 0.003 < 0, 05, meaning that there is a relationship between Mother's Knowledge of Nutrition and Stunting Incidence in Pagar Jati District, Central Bengkulu Regency and the sanitation hygiene variable obtained p value of 0.001 < 0.05, meaning that there is a relationship between sanitation hygiene and Stunting Incidence in Pagar Jati District, Central Bengkulu Regency.

Conclusion: Exclusive breastfeeding, mother’s knowledge about nutrition and sanitation hygiene has a relationship with the incidence of stunting in Pagar Jati District, Central Bengkulu Regency. It is recommended to mothers of Toddlers to actively participate in Posyandu activities and check the growth and development of Toddlers on a regular basis.

Keywords: Exclusive Breastfeeding, Mother's Knowledge, Sanitation Hygiene, Stunting

1. Introduction

Stunting is a growth and development disorder in children due to chronic malnutrition and repeated infections, which is characterized by a length or height that is below the standard set by the minister who administers government affairs in the health sector (Peraturan Presiden Republik Indonesia Nomor 72 Tahun 2021 Tentang Percepatan Penurunan Stunting, 2021). Meanwhile, according to the Minister of Health Regulation of the Republic of Indonesia Number 2 of 2020 concerning Arthropometric standards for assessing children's nutritional status, stunting is a condition where the results of measuring body length according to age (PB/U) or height according to age (TB/U) are between -3
SD to -2 elementary school. If the measurement results of PB/U or TB/U are below -3 SD, it is called severe stunting (Peraturan Menteri Kesehatan Republik Indonesia Nomor 2 Tahun 2020 Tentang Standar Antropometri Anak, 2020).

Globally, stunting contributes to 15-17 percent of all child deaths. Even though they survived, they did not do well in school and thus became less productive as adults. In 2018, the Ministry of Health stated that data from the Ministry of Health recorded that 3 out of 10 Indonesian children were short. Based on the results of Riskesdas 2018, the prevalence of stunting in Toddlers is 30.8% (Kemenkes RI, 2018), while based on data from the Indonesian Toddler Nutrition Status Survey (SSGI) in 2021, the prevalence of stunting is at 24.4 percent or 5.33 million Toddlers (Kemenkes RI, 2021).

Stunting is a major threat to the quality of Indonesian people, as well as a threat to the nation's competitiveness. This is because stunted children are not only disturbed by their physical growth (short/short stature), but also their brain development, which of course will greatly affect their ability and achievement in school, productivity and creativity in productive ages. Stunting is a serious threat because children do not get various essential nutrients for growth, the immune system is reduced and brain growth is not optimal, stunting contributes to 15-17% of all child deaths in the world, due to lack of achievement in school as adults become less productive, income. When you become an adult, you will continue to be in the poverty line, will reduce your lifetime income by as much as 20% and ultimately contribute less to the economic growth of your family and nation (Tim Indonesia baik.id, 2019).

The condition of Indonesian children is generally good at birth, but failure to thrive occurs after entering the age of 2-3 months. Stunting starts from pre-conception when a teenager becomes a malnourished and anemic mother, becomes severe during pregnancy with insufficient nutritional intake and the mother lives in an environment with inadequate sanitation. Stunting is caused by multi-dimensional factors. The most decisive intervention at 1,000 HPK (First 1000 Days of Life). Other factors that cause stunting are poor parenting practices such as lack of knowledge about health and nutrition before and during pregnancy, children aged 0-6 months not receiving exclusive breastfeeding and children 6-24 months not receiving breast milk substitutes. Lack of access to nutritious food such as anemic pregnant women, lack of access to clean water and sanitation and limited health services including ANC services, post natal and quality early learning (Tim Indoneisibaik.id, 2019).

The prevalence of stunted toddlers (height according to age) in Bengkulu Province based on the results of the 2021 SSGI is 22.1% and the prevalence of stunting toddlers in Central Bengkulu Regency is 25.5% (Kemenkes RI, 2021). The decision of the Central Bengkulu Regent regarding the determination of the priority locus for stunting prevention in Central Bengkulu Regency in 2021 stipulates 4 locus villages in Pagar Jati District, namely Taba Rena Village, Temiang Village, Kertapati Village and Renah Jaya Village (Keputusan Bupati Bengkulu Tengah Tentang Penetapan Kelurahan Lokus Prioritas Penanggulangan Stunting Tahun 2021, 2021).

Based on the results of Nirmalasari's study, the incidence of stunting increased in conditions of maternal age during pregnancy <20 or 35 years, maternal upper arm circumference during pregnancy ≥23.5cm, pregnancy in adolescence, and low maternal height. Early initiation of breastfeeding that was not carried out, exclusive breastfeeding that was not carried out, early complementary feeding before the age of 6 months, and poor food quality related to energy, protein, calcium, iron, and zinc intake were found to increase the risk of stunting. Furthermore, the child's growth and development can be disrupted and may experience stunting if there is a history of low birth weight (LBW) or premature, a male child, a history of neonatal disease, a history of frequent and repeated diarrhea, a history of infectious diseases, and the child is not healthy. get immunized. The environment also plays a role in causing stunting. Some of them are low socioeconomic status, poor family education, especially mothers, less family income, open defecation
habits such as rivers or gardens or inadequate latrines, untreated drinking water, and high exposure to pesticides (Nirmalasari, 2020).

The results of Apriluana and Fikawati's research showed that the nutritional status factor with birth weight <2,500 grams had a significant influence on the incidence of stunting in children and had a risk of experiencing stunting of 3.82 times. The mother's education factor has a significant influence on the incidence of stunting in children and has a risk of experiencing stunting as much as 1.67 times. The factor of low household income was identified as a significant predictor of stunting in children under five by 2.1 times. Poor sanitation factors have a significant influence on the incidence of stunting in toddlers and have a risk of experiencing stunting of up to 5.0 times. Poor sanitation is the dominant factor in the risk of children experiencing stunting (Apriluana & Fikawati, 2018). The results of Ni’mah and Nadhiroh's research, birth length, history of exclusive breastfeeding, family income, mother's education, and knowledge of maternal nutrition are factors related to the incidence of stunting in toddlers (Ni’mah & Nadhiroh, 2015).

Stunting interventions are carried out throughout the life cycle in both the health and non-health sectors involving various levels of society such as the government, private sector, civil society, the United Nations through collective action to improve nutrition improvement, both short term (specific intervention) and long term (sensitive) (Mitra, 2015).

The prevalence of stunting will increase if the risk factors for stunting are not addressed. This study aims to analyze the risk factors associated with the incidence of stunting in Pagar Jati District, Central Bengkulu Regency, namely the exclusive breastfeeding factor, the maternal knowledge factor about nutrition and the sanitation hygiene factor.

2. Methods

This study uses an analytic observational method with a cross-sectional design approach. The samples were children aged 12-59 months in the priority locus of stunting prevention in Central Bengkulu Regency, namely Taba Rena Village, Temiang Village, Kertapati Village and Renah Jaya Village, totaling 50 samples. The research sample was taken using simple random sampling technique.

The dependent variable in this study was the incidence of stunting, while the independent variables were exclusive breastfeeding, mother's knowledge about nutrition and sanitation hygiene. The types of data collected are primary data and secondary data. Primary data was obtained through questionnaires to mothers of children under five. Data analysis was carried out to see the relationship between variables using the Chi-Square test with a 95% confidence level ($\alpha = 0.05\%$).

3. Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Exclusive Breastfeeding:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Giving Exclusive Breastfeeding</td>
<td>32</td>
<td>64%</td>
</tr>
<tr>
<td>Not Giving Exclusive Breastfeeding</td>
<td>18</td>
<td>36%</td>
</tr>
<tr>
<td><strong>Amount</strong></td>
<td>50</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Mother's Knowledge of Nutrition:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enough</td>
<td>27</td>
<td>54%</td>
</tr>
<tr>
<td>Not enough</td>
<td>23</td>
<td>46%</td>
</tr>
<tr>
<td><strong>Amount</strong></td>
<td>50</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Hygiene Sanitation:</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Based on table 1, it can be seen that the majority of mothers under five in Pagar Jati District, Central Bengkulu Regency gave exclusive breastfeeding, as many as 32 people (64%), most of the mothers under five in Pagar Jati District, Central Bengkulu Regency with less knowledge about nutrition, as many as 27 people (54%), most of the mothers under five in the Pagar Jati sub-district, Central Bengkulu district with adequate hygiene and sanitation, as many as 40 people (80%) and most of the mothers under five in the Pagar Jati sub-district, Central Bengkulu district, had non-stunted toddlers, as many as 37 people (74%).

Based on table 2, it shows that from 18 mothers under five who do not give exclusive breastfeeding, there are 9 children under five (50%) stunting. Of the 32 mothers under five who gave exclusive breastfeeding, there were 4 under five (12.5%) stunting. The results of statistical tests obtained p value of 0.010 <0.05, meaning that there is a relationship between exclusive breastfeeding and stunting in Pagar Jati District, Central Bengkulu Regency.

Based on table 3, it shows that from 23 mothers under five with less knowledge about nutrition, there are 11 children under five (47.8%) stunting. Of the 27 mothers under five with sufficient knowledge about nutrition, there were 2 children under five (7.4%) stunting. The results of statistical tests obtained p value of 0.003 <0.05, meaning that there is a relationship between Mother's Knowledge of Nutrition and Stunting Incidence in Pagar Jati District, Central Bengkulu Regency.
Table 4. Relationship of Sanitary Hygiene on Nutrition with Stunting Incidence

<table>
<thead>
<tr>
<th>Hygiene Sanitation</th>
<th>Stunting Incident</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stunting</td>
<td>Not Stunting</td>
</tr>
<tr>
<td>Not Qualify</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Qualify</td>
<td>7</td>
<td>70</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>37</td>
</tr>
</tbody>
</table>

Based on table 4, it shows that out of 10 mothers under five with sanitation hygiene not meeting the requirements, there are 7 children under five (70%) stunting. Of the 40 mothers under five with sanitation hygiene that met the requirements, there were 6 children under five (15%) stunting. Statistical test results obtained p value of 0.001 <0.05, meaning that there is a relationship between hygiene sanitation and stunting in Pagar Jati District, Central Bengkulu Regency.

4. Discussion

The results of statistical tests obtained p value of 0.010 <0.05, meaning that there is a relationship between Exclusive Breastfeeding and Stunting Incidence in Pagar Jati District, Central Bengkulu Regency. Exclusive breastfeeding is breastfeeding that is given from the time the baby is born until the baby is six months old without providing other food or drinks such as formula milk, water, orange juice except vitamins and drugs (Kemenkes RI, 2016).

In infants, Breastfeeding plays a very important role in fulfilling their nutrition. Consumption of breast milk also increases the baby's immune system, thereby reducing the risk of infectious diseases. Mineral levels in breast milk contain calcium which functions for the growth of muscle and skeletal tissue, transmission of nerve tissue and blood clotting. This is what supports the baby's growth, especially height so that babies who are breastfed also have a higher height and fit the growth curve compared to babies who are given formula milk. In line with the results of Wulandari and Gobel's research, 14 toddlers (35.9%) were given exclusive breastfeeding, and 25 (64.1%) were normal toddlers. With calculations using the chi-square test obtained p-value <0.001, it can be concluded that there is a relationship between breastfeeding history and the incidence of stunting (Wulandari & Gobel, 2022). The results of Istiani et al's research, the results of statistical tests using the Chi-Square formula with Yate's Corelation were obtained Value = 0.003 where Value < (α = 0.05) then H0 was rejected and Ha was accepted so it was interpreted that exclusive breastfeeding had an effect on stunting. in the area of the Wotu Health Center, Wotu District, East Luwu Regency in 2021(Istiani et al., 2021).

The results of statistical tests obtained p value of 0.003 <0.05, meaning that there is a relationship between Mother's Knowledge of Nutrition and Stunting Incidence in Pagar Jati District, Central Bengkulu Regency. Knowledge is a result of curiosity through sensory processes, especially in the eyes and ears of certain objects. Knowledge is an important domain in the formation of open behavior (Donsu, 2017). Mother's knowledge in this study is everything about the intake of nutritional adequacy. Based on the results of Wulandari and Gobel's research, it is known that 1 respondent (100%) is a stunting toddler with a low level of maternal knowledge and there are no normal toddler respondents with a low level of knowledge. As for respondents with sufficient knowledge, the highest frequency is stunting toddlers with sufficient maternal knowledge as many as 53 respondents (62.4%), while normal toddlers with sufficient maternal knowledge levels are 32 respondents (37.6%). With calculations using the chi-square test, the p-value is 1.00 > 0.05, so it can be concluded that there is no relationship between maternal knowledge and the incidence of stunting (Wulandari & Gobel, 2022). The results of Wardita et al's research showed that the mother's pregnancy
history, child's nutritional status, parenting patterns, mother's knowledge and exclusive breastfeeding had a significant effect on the incidence of stunting in Saronggi District, Sumenep Regency (Wardita et al., 2021).

The results of statistical tests obtained p value of 0.001 <0.05, meaning that there is a relationship between sanitation hygiene and stunting in Pagar Jati District, Central Bengkulu Regency. Sanitary hygiene in this study includes healthy latrines and access to clean water. Based on the results of Wulandari and Gobel's research, the distribution of respondents based on Environmental Factors in the relationship between Drinking Water Management and the incidence of stunting, it is known that those who do not meet the requirements in the drinking water management category and are stunted toddlers are 32 respondents (100%) while for normal toddlers there is no water management. drinking in the ineligible category. As for drinking water management which is a category that meets the requirements and includes respondents with stunting toddlers as many as 22 respondents (40.7%) while normal toddlers whose drinking water management meets the requirements are 32 respondents (59.3%). By calculating using the chi-square test, the p-value <0.001 and the result <0.05, it can be concluded that there is a relationship between Drinking Water Management and the incidence of stunting (Wulandari & Gobel, 2022).

5. Conclusion

Based on the results of the study, there was a relationship between exclusive breastfeeding and the incidence of stunting in Bengkulu City, there was a relationship between maternal knowledge about nutrition and the incidence of stunting in Bengkulu City and there was a relationship between sanitation hygiene and stunting in Pagar Jati District, Central Bengkulu Regency.

6. Suggestion

It is recommended to mothers of children under five to actively participate in Posyandu activities and check the growth and development of infants under five on a regular basis, meet the nutritional needs of infants or toddlers with a balanced nutritional menu and meet the needs of clean water in the family.

References