Risk Factors for Stunting at Balung Health Center, Jember Regency, Indonesia

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A B S T R A C T

Stunting is a condition of failure to thrive in children under five years of age as a result of chronic malnutrition so that the child is too short for his age. The prevalence rate of stunting in Indonesia is still above 20%, meaning that it has not reached the target. Factors that influence stunting include birth length and birth weight. The purpose of this study was to determine the description of the factors that influence the incidence of stunting in children aged 0-59 months in the working area of the Balung Public Health Center in 2021. This research is descriptive in nature which was conducted in the working area of Puskesmas Balung, Jember Regency in April 2021. The population is children under five with age stunting. 0-59 months recorded in the EPPGBM in February 2021. Sampling in this study was carried out by total sampling, namely as many as 639 stunting toddlers. Of the 639 stunted children under five, 347 were male and the majority occurred at the age of 12-23 months, namely 150 under five. From 639 toddlers, it describes 516 toddlers with normal body length and 123 toddlers with short birth lengths. Meanwhile, the birth weight of 639 children under five shows that 422 children under five were born with normal birth weight. From the data above, it can be concluded that the majority of children under five with stunting in the working area of Puskesmas Balung were born with normal body length and weight. For this reason, it is necessary to carry out further research on the relationship of several risk factors using statistical tests. In addition, it is also necessary to look for other risk factors that can cause stunting in children.

Keyword: Stunting, Gender, Age, Birth length, Birth weight

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Faktor Risiko Kejadian Stunting di Puskesmas Balung Kabupaten Jember

Kata kunci: Stunting, Jenis Kelamin, Umur, Panjang badan lahir, Berat badan lahir

ABSTRAK

INTRODUCTION

Stunting is the condition of failure to thrive in children under five years as a result of chronic malnutrition so that children are too short for their age (TNP2K, 2017). The data on the prevalence of stunting of children under five, which was collected by the World Health Organization (WHO) released in 2018, states that Indonesia is one of the third countries with the highest prevalence in the South-East Asian Region after Timor Leste (50.5%) and India (38.4%), which is 36.4% (Ministry of Health RI, 2018). The prevalence rate of stunting in Indonesia is still above 20%, meaning that it has not reached the target.

The prevalence of stunting in East Java according to (East Java Provincial Health Office, 2018) is 26.9%. Jember Regency is one of the districts that is in the spotlight because Jember Regency is one of the districts that entered the stunting locus both in 2018 and 2019. This means that Jember Regency has been included in the priority of accelerating stunting reduction (Ulfa& Nugroho, 2020). This is exacerbated by the increase in the stunting rate in Jember Regency from 17.344 in 2018 to 19,870 in 2019. Based on evaluation data from the Community-Based Nutrition Recording and Reporting Application (EPPGBM) until February 2021, the prevalence of stunting under five in the working area of the Balung Community Health Center is 29.14%. This number is included in the high category in Jember Regency.

Stunting in toddlers needs special attention because it can cause inhibition of physical growth, mental development and health status in children. Recent studies have shown that children who are stunted are associated with poor performance in school, low levels of education and low income as adults. Children who are stunted are more likely to grow up to be unhealthy and poor adults. Stunting in children is also associated with an increase in children’s susceptibility to diseases, both infectious and non-communicable diseases (PTM) and an increased risk of overweight and obesity. Long-term overweight and obesity can increase the risk of degenerative diseases (Setiawan, Machmud, & Masrul, 2018).

Risk factors for the genesis of stunting in children under five include birth length, birth weight, history of exclusive breastfeeding, history of BMI, family income, maternal height and number of family members. Stunting can also be caused by risk factors for deficiency of several vitamins such as iron, zinc, calcium and vitamin A (Fitriyani & Mulyati, 2012). In this research, it will be conducted to find risk factors for stunting in children under five at Balung Public Health Center with stunting incidence factors including gender, age, birth length, birth weight, history of exclusive breastfeeding and vitamin A immunization status. Description of the causes of stunting in children under five at the Public Health Center in Balung so that it can be taken into consideration for policy holders if they will conduct further interventions on stunting children at the Public Health Center in Balung.

METHOD

The method in this research used a descriptive research method carried out at the working area of the Public Health Center of Balung in Jember Regency on April 2021. This research used a population of children under five who were stunting recorded in the EPPGBM on February 2021. Sampling in this research was carried out by total sampling, which was 639 of stunting toddlers. The data collection of this research uses secondary data sourced from the Community-Based Nutrition Recording and Reporting Application (EPPGBM) of the Ministry of Health. Furthermore, data processing is carried out in the form of editing, coding, entry, cleaning and analyzed using univariate analysis.

RESULTS AND DISCUSSION

The genesis of stunting in this research was divided into two categories, namely short and very short. The research results can be seen in table 1.

Based on table 1, it is found that the proportion of the genesis of stunting in children 0-59 months is more found in under-fives with male gender 347 people compared to 292 women. This is in line with research conducted by (Angelina, Perdana, & Humairoh, 2018) in Lampung Province, it was found that male were more likely to the genesis of stunting. Male experience more stunting because women have more fat tissue and less muscle tissue than men. Metabolically, muscle is more active when compared to fat, so muscle will require proportionately higher energy than fat, thus, men and women with the same height, weight and age have different body compositions, so that energy needs and
nutrition will also be different. Researchers argue that male 
toddlers are generally more active than female toddlers. 
Males are generally more active in playing outside the house, 
such as running, so they are easier to come into contact 
with dirty environments and spend more energy, while their 
energy intake is limited. Gender determines the amount of

nutritional needs for a person so that there is a relationship 
between nutritional status and gender. The difference in 
the amount of nutritional needs is influenced by differences in 
body composition between men and women. So that the 
amount of intake that must be consumed is more.

Table 1

<table>
<thead>
<tr>
<th>Respondents Characteristics</th>
<th>Short</th>
<th>Very Short</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>228</td>
<td>119</td>
<td>347</td>
</tr>
<tr>
<td>Female</td>
<td>200</td>
<td>92</td>
<td>292</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-11 months</td>
<td>51</td>
<td>72</td>
<td>123</td>
</tr>
<tr>
<td>12-23 months</td>
<td>96</td>
<td>54</td>
<td>150</td>
</tr>
<tr>
<td>24-35 months</td>
<td>94</td>
<td>44</td>
<td>138</td>
</tr>
<tr>
<td>36-47 months</td>
<td>103</td>
<td>27</td>
<td>130</td>
</tr>
<tr>
<td>48-59 months</td>
<td>84</td>
<td>14</td>
<td>98</td>
</tr>
</tbody>
</table>

Meanwhile, children under five who experienced 
stunting were mostly found at the age of 12-23 months. This 
is in line with research conducted by (Nasrul, Fahmi, Thaha, 
& Syria, 2015) that baduta aged 12-23 months were 2.7 
times more likely to be stunted than children under five aged 
6-11 months. Based on baseline health research's data in 
Andiani's research, it is also stated that baduta aged 12-23 
months are a determinant factor of stunting in Indonesia 
(Sutriana, Usman, & Umar, 2020). This is because the 

nutrients given at this age are not suitable for that, so that 
growth slows down and changes in the form of food given 
and is not properly controlled (Sutriana et al., 2020).

Risk Factors for the genesis Stunting

a. Body Length of Birth

In this research, the length of the birth body was divided into 
categories, namely <48 cm which was categorized as short, 
and ≥48 cm which was categorized as normal. The results of 
the research can be seen in table 2.

Table 2

<table>
<thead>
<tr>
<th>Length of the birth body</th>
<th>Short</th>
<th>Very short</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short</td>
<td>82</td>
<td>41</td>
<td>123</td>
</tr>
<tr>
<td>Normal</td>
<td>346</td>
<td>170</td>
<td>516</td>
</tr>
<tr>
<td>Birth weight</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;2500 gram</td>
<td>6</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>≥2500 gram</td>
<td>422</td>
<td>204</td>
<td>626</td>
</tr>
</tbody>
</table>

In this research, the distribution of the frequency of body 
length at birth in stunting children found that out of 639 
respondents, 516 were born with a body length of ≥ 48 cm. 
The majority of birth length in this research were born with 
normal body length, namely ≥ 48 cm. This research is in line 
with the research conducted (Sari & Oktacia, 2018) which 
states that stunted toddlers are born with a birth length of ≥ 
48 cm, namely 61.3% (19 people). The risk of growth 

disorders is greater in babies whose birth length is far from 
the average. This can be caused by a lack of nutritional intake 
during pregnancy which causes the birth length to be below 
normal. So that in this research it is necessary to do further 
research on the correlation between birth length and the 
genesis of stunting using statistical tests.

b. Birth Weight

In this research, birth weight was divided into two 
categories, namely <2500 grams categorized as low birth 
weight (LBW), and ≥2500 grams categorized as normal. The 
research results can be seen in table 2.

In this research, the frequency distribution of birth 
weight in stunting children found that out of 639 
respondents, 626 people were born with birth weight ≥2500 
grams, while only 13 children under five were born with low 
birth weight. This is in line with the research conducted (Sari 
& Oktacia, 2018) which illustrates that all children under five 
are stunted in their study, namely 100% born with normal 
birth weight, namely 2500 grams–4000 grams. Several risks, 
such as the risk of death, growth disturbance, developmental 
disruption and stunting are some of the risks that might 
occur in children under five who are born with low birth 
weight (LBW) if not handled properly. Adequacy of nutrition, 
parenting style and incidence of infection affect the 
incidence of stunting in children under five. In addition, low 
birth weight and body length are still found at the age of less 
than 6 months, so if the nutritional status is handled 
properly, the risk of stunting at the next age will be low.

CONCLUSIONS AND SUGGESTIONS

From this research, it can be concluded that the 
distribution of stunting incidence among toddlers aged 0-59
months at the Public Health Center of Balung was mostly found at 12-23 months of age and male. In addition, the majority of stunting children have normal birth length and normal birth weight. So that further statistical tests are needed on the risk factors for body length and birth weight. In addition, further research is needed regarding other risk factors such as maternal height, parents’ income factors, and others.

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Conflict of Interest Statement

The researcher states that there is no potential conflict of interest with respect to the writing and publication of this article.

REFERENCE


