Proximal Factors on Stunting Incidence in Toddlers in Indonesia and Developing Countries: Scoping Review

Arief Khoerul Ummah¹, Henny Suzana Mediani

¹Universitas Padjadjaran, Indonesia.

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Corresponding Author:
Arief Khoerul Ummah
arie20006@unpad.mail.ac.id
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Abstract: Stunting is a problem for health and can hinder the future of a nation. It indicated from height the prevalence of stunting as well as the impact of what happened. Article reviews This aim is to identify factors proximal to the incidence of stunting in children under five in developing countries, including Indonesia. Search for the article scientific this is done through electronic databases. Criteria for inclusion in the article explain factors proximal to the incidence of stunting in children under five in developing countries, with cross-sectional and case-control studies from the years of publication 2018–2023. Study results from 15 articles show factors proximal, including LBW, body length, prematurity, sequence of birth, immunization status, ARI, and disease infection, relate to the incidence of stunting in children under five in developing countries. Study conclusion This discloses a factor proximal to the incidence of toddler stunting in developing countries. Effort promotion, health, and program control oversight nutrition for mothers at 1000 days First life to prevent stunting occurring.

Keywords: Child; Developing countries; Proximal factors; Stunting

Introduction

Stunting is lateness in growth in toddlers as a consequence of chronic lack of nutrition that makes a child appear short for his age (Mbuya & Humphrey, 2016). Globally, there are 155 million children who have experienced toddler stunting incidents (Vonaesch et al., 2018). Based on data from the Ministry of Health of the Republic of Indonesia (2021), Indonesia is in the order of 2nd in Southeast Asia, reaching 30.8%, or 153,228 children.

The problem of stunting in this toddlers will impact vulnerability. Power stand body, level cognitive disorder mental development, power motor, as well as can result in death (Vonaesch et al., 2018). This stunting problem is caused by multifactors where factors relate to each other and factors can be different in each area (Saputri & Tumangger, 2019). Related factors with many stunting incidents explained in the literature, among others, include politics, economics, service health, education, social culture, as well as water and sanitation. Besides that, there are intermediate factors in the matter. This factor of the house ladder covers amount as well as quality food that isn't adequate, source low family, number family, as well as maintenance health that is not totally adequate. Factor proximal covers prematurity, weight of the baby born low, birth length, order of birth, history of disease infection, and history of immunization (Boah et al., 2019). Of the three factors, the currently done effort handling and acceleration decline globally as well as nationally. In scoping reviews in Indonesia and abroad, already someone has researched related factors with stunting events; however, there is not yet a study in a manner special to researching related factors proximal, especially order birth, because that study has become important to do in developing countries, including Indonesia.

Method

Study Design

This study uses a design scoping review as a methodology study. For answer question researcher: "How is the factor process proximal in influencing stunting in children and toddlers in developing countries?" Development question study follow guidelines Formulated PEO is Population Study Mother with stunted children aged 0–60 months and children ages 0–60 months. Exposure of interest explains factor proximal stunting in children aged 0–60 months by stunting.

How to Cite:
Overcome factor proximal stunting in children and toddlers with the method of quantitative Key words used were proximal factors, stunting, children, and developing countries.

**Selection Criteria**

Criteria for inclusion in this research is published research from 2018-2023. Source information used for looking for and identifying various studies published as cross-sectional and case-control originals in English and Indonesian As for the criteria, exclusion covers studies conducted outside developing countries, factors outside of WHO and UNICEF guidelines, randomized controlled trials (RCTs), qualitative reviews, and mixed methods. Based on studies sorting material results obtained, 88,140 publications were retrieved from database searches. From publication duplicates as well as articles that do not conform to the title, 1,282 articles were issued, so 580 articles were obtained, leaving the remaining 702 articles. Then, based on abstracts, 667 articles were issued, with 35 articles remaining. Furthermore, the selection stage is complete, and there are 20 published articles. Because no article is in accordance with criteria, there are 15 articles that fulfill criteria. This review focuses on proximal factors that can contribute to stunting in children and toddlers in developing countries.

**Figure 1. Process flow research**

**Table 1. Summary of Journal Literature Search Results**

<table>
<thead>
<tr>
<th>Writer</th>
<th>Year</th>
<th>Title</th>
<th>Place</th>
<th>Method</th>
<th>Respondents</th>
<th>Sampling technique</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mistry, Hossain, Khanam</td>
<td>2019</td>
<td>Individual, maternal and household-level factors associated with stunting among children aged 0-23 months in Bangladesh</td>
<td>Bangladesh</td>
<td>Cross-sectional</td>
<td>Children aged 0-23 months a total of 6,539 respondents</td>
<td>Random clusters</td>
<td>Factor happening Stunting events are caused by sequence birth, disease diarrhea and LBW</td>
</tr>
<tr>
<td>Kang &amp; Kim</td>
<td>2019</td>
<td>Risk factors for undernutrition among children 0–59 months of age in Myanmar</td>
<td>Myanmar</td>
<td>Cross-sectional</td>
<td>Children aged 0-59 months a number of 4,500 respondents</td>
<td>Probability proportional</td>
<td>nutritional status not enough with birth weight not enough showing risk 1.85 times more big experiencing stunting incident</td>
</tr>
<tr>
<td>Amare, Ahmed, Mehari</td>
<td>2019</td>
<td>Determinants of nutritional status among children under age 5 in Ethiopia: Further analysis of the 2016 Ethiopia demographic and health survey</td>
<td>Ethiopia</td>
<td>Cross-sectional</td>
<td>Age child 0-59 months a total of 9,419 respondents</td>
<td>Random clusters</td>
<td>LBW and order birth is one the resulting factors stunting incident</td>
</tr>
<tr>
<td>Abeway, Gebremichael, Murugan</td>
<td>2018</td>
<td>Stunting and its determinants among children aged 6-59 Months in Northern</td>
<td>Northern Ethiopia</td>
<td>Cross-sectional</td>
<td>6 month old child up to 59 months a number of</td>
<td>Simple random sampling</td>
<td>Children with LBW status have risk 5.95 times more risky</td>
</tr>
<tr>
<td>Writer</td>
<td>Year</td>
<td>Title</td>
<td>Place</td>
<td>Method</td>
<td>Respondents</td>
<td>Sampling technique</td>
<td>Results</td>
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</tr>
<tr>
<td>Fikri &amp; Komalyina</td>
<td>2023</td>
<td>Ethiopia: A cross-sectional study Factor affecting risk incidence of stunting in toddlers in the village murtajih, district pamukasan</td>
<td>Pamekasa, Madura</td>
<td>Case control</td>
<td>410 respondents</td>
<td>Random sampling</td>
<td>experiencing stunting in toddlers is birth length (OR=4.00, p=0.0047), immunization status baseline (OR=6.00, p=0.028), and history ISPA disease (OR=0.09, p=0.001)</td>
</tr>
<tr>
<td>Mutmainnah, Malka, &amp; Musni</td>
<td>2022</td>
<td>Relationship between mother’s education and birth length Stunting Incidents in Toddlers Age 12-60 Months In The Village Murtajih, Subdistrict Sibulue, District Pamekasan</td>
<td>Sibulue</td>
<td>Cross-sectional</td>
<td>Children aged 12-60 months a number of 84 respondents</td>
<td>Purposive proportional random sampling</td>
<td>Birth length own significant relationship to stunting in children age 12-60 months p=0.005</td>
</tr>
<tr>
<td>Sari &amp; Sartika</td>
<td>2021</td>
<td>The effect of the physical factors of parents and children on stunting at birth among newborns in Indonesia</td>
<td>Indonesia</td>
<td>Cross-sectional</td>
<td>0 month old child totaling 756</td>
<td>Random clusters</td>
<td>Premature baby own 2 times the probability more tall experienced stunting at the time born with OR = 2.12 p = &lt;0.001</td>
</tr>
<tr>
<td>Sumardilah &amp; Rahmadi</td>
<td>2019</td>
<td>Risiko Stunting Anak Baduta (7-24 Bulan)</td>
<td>Lampung, Surabaya</td>
<td>Case control</td>
<td>7 month old child up to 24 months number 298</td>
<td>Random sampling</td>
<td>Have a history of premature birth significant relationship by stunting with p-value = 0.022</td>
</tr>
<tr>
<td>Ahishakiye, Abimana, &amp; Beck</td>
<td>2019</td>
<td>Developmental outcomes of preterm and low birth weight toddlers and term peers in Rwanda</td>
<td>Rwanda</td>
<td>Cross-sectional</td>
<td>Children aged 24-36 months as many as 445</td>
<td>Random sampling</td>
<td>Premature birth has significant relationship with incidence of stunting p=0.048</td>
</tr>
<tr>
<td>Chungkham, Sahoo, &amp; Marbanian</td>
<td>2020</td>
<td>Birth interval and childhood undernutrition: Evidence from a large scale survey in India</td>
<td>India</td>
<td>Cross-sectional</td>
<td>Children aged 1-5 years as many as 259,627</td>
<td>Stratified cluster sampling</td>
<td>Order birth child own significant relationship to incidence of stunting p=0.001</td>
</tr>
<tr>
<td>Agustia, Rahman, &amp; Hermiyanty</td>
<td>2020</td>
<td>Factor Risk Stunting Incidents in Toddlers Age 12-59 Months in the Poboya Mine Area, Palu City</td>
<td>Hammer, Surabaya</td>
<td>Case control</td>
<td>21 cases and 63 controls, a total of 84 samples. Old child 12 months old up to 59 months</td>
<td>Stratified random sampling</td>
<td>Immunization status is factor risk to stunting incident with OR = 3.850</td>
</tr>
<tr>
<td>Arini, Nursalam, &amp; Mahmudah</td>
<td>2020</td>
<td>The incidence of stunting, the frequency/duration of diarrhea and Acute Respiratory Infection in toddlers</td>
<td>Surabaya, Indonesia</td>
<td>Cross-sectional</td>
<td>Children aged 12-36 months number 152</td>
<td>Stratified random sampling</td>
<td>ISPA and Diarrhea is factor risk from The incidence of stunting is shown in diarrhea with Frequency diarrhea p=0.005 and ISPA with</td>
</tr>
</tbody>
</table>
Result and Discussion

Result

Search results for this scientific article were done through databases on the internet, namely ProQuest, Pubmed, Ebscohost, Siciendirect, Taylor and Francis, and Google Scholar. 15 articles were found to fulfill criteria for inclusion that have been determined by the author as well as in accordance with topic discussion in research. Sampling technique and the results that can be seen in Table 1.

Discussion

LBW Factor with Stunting

LBW signifies that the fetus experiences malnutrition in the womb. A newborn baby with a weight of less than 2500 gr has a risk of experiencing stunting (Abeway et al., 2018). Research conducted in Myanmar by Kang et al. (2019) describes nutritional status as not enough with LBW and shows a risk 1.85 times greater of experiencing stunting. According to Mistry et al. (2019), less LBW babies of 2.5 kg are 50% more likely to experience stunting at a young age. Reason for the LBW lack of energy chronically caused by deficiency nutrition at the time of pregnancy (Amare et al., 2019). A baby with a history of LBW inside content potential experiences slow growth and no development in accordance with her age. This is in accordance with a study (Abeway et al., 2018) that says that for a child with LBW status, the risk is 5.95 times greater for failure in growth matters. This is because it lacks nutrition. For fulfilling needs, body If matter This over time can result in stunting.

Body Length Factor with Stunting

Experienced babies disturbances in growth since age early show a risk for experiencing growth falter and catch up, which reflects an inability to reach optimal growth (Utami et al., 2022). Based on research conducted in Madura by Fikri et al. (2023), a toddler with a short birth length is four times more likely to experience stunting. This is in line with the study by Mutmainnah et al. (2022) in Sibulue, where a newborn toddler with less body length than 46.1 cm is at risk of experiencing stunting. This is because during the content experience lack of intake nutrition has an impact on growth. Besides that, after a child is born, if they have not received adequate nutrition for a long time, they will experience stunting.

Factor Prematurity with Stunts

Premature births are births that take place at ages 20 to 37 weeks of gestation and are counted from the first to the last. Based on a study (Ahishakiye et al., 2019) in Rwanda, one of the influencing factors for stunting is premature birth. This same study by Sari et al. (2021) conducted in Indonesia found that twice as many premature babies are experiencing stunting. Besides that, according to a study Sumardilah et al. (2019) conducted in Lampung, premature births had a significant relationship with stunting incidence (p = 0.022). This happens at the moment of a short

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</tr>
</thead>
<tbody>
<tr>
<td>Himawati &amp; Fitria</td>
<td>2020</td>
<td>Connection Infection Channel Upper Breathing with Stunting Incidence in Children Under 5 Years Old in Sampang</td>
<td>Lacquer East Java</td>
<td>Cross-sectional</td>
<td>Children aged under 5 years old as many as 170</td>
<td>total sampling</td>
<td>incidence of stunting p=0.001 ISPA disease has significant relationship with stunting incidence (p=0.029)</td>
</tr>
<tr>
<td>Berhe, Seid, &amp; Gebremariam</td>
<td>2019</td>
<td>Risk factors of stunting (chronic undernutrition) of child reared 6 to 24 months in Mekelle City, Tigray Region, North Ethiopia: An unmatched case-control study</td>
<td>North Ethiopia</td>
<td>Case control</td>
<td>220 groups not stunting and 110 groups cases, a total of 330 samples. Old child age 6 months up to 24 months</td>
<td>Consecutive sampling</td>
<td>Incident diarrhea is factor risk experience stunting incident with value OR = 5.3</td>
</tr>
<tr>
<td>Tafesse, Joseph, &amp; Mayiso</td>
<td>2021</td>
<td>Factors associated with stunting among children aged 6–59 months in Bensa District, Sidama Region, South Ethiopia: unmatched case-control study</td>
<td>South Ethiopia</td>
<td>Case control</td>
<td>158 groups not stunting and 79 groups cases total sample 237. Children aged 6-59 months</td>
<td>Random sampling</td>
<td>Experienced child diarrhea in 2 weeks final is factor risk happening incidence of stunting p = 0.001</td>
</tr>
</tbody>
</table>
pregnancy, as well as during retrograde linear growth in content. newborn baby Enough month if intake of nutrition is not enough, you will experience growth failure. This will increase greatly if added to exposure to disease and infection. On the contrary, premature babies will experience growth failure if given adequate nutrition, so growth can catch up.

**Factor Order Birth with Stunts**

Order of birth will influence attention from parents. Born children, first and second, will get attention in a maximum manner. This is in line with the study by Mistry et al. (2019) in Bangladesh, where there is a connection between order birth and stunting incidence (p = 0.006). Study next thing to do: Amare et al. (2019) in Ethiopia found a connection between order birth and stunting (p = 0.001). This is strengthened by research by Chungkham et al. (2020) in India on the sequence of birth children's significant relationship to stunting incidence (p = 0.001). This happens when a born child with orders first and second usually gets more nutrition compared to orders third and so on because of the economy.

**Immunization Status Factor with Stunts**

Immunization is an effort to increase immunity to disease in children. Immunization must be administered in a comprehensive manner, as failure to do so will result in immunity in the body, making disease more easily attacked, and failure to do so may result in stunting (Damanik et al., 2018; Krol & Grossmann, 2018). Based on a study by Fikri et al. (2023) in Madura, no complete immunization is basic in toddlers, so they risk being six times more tall and experiencing stunting. According to the study Agustia et al. (2020), toddlers who do not receive immunization are 3,850 times more likely to suffer from stunting.

**Factor Disease: ARI Infection with Stunting**

ISPA is one of many diseases found in children, with symptoms ranging from mild to severe. ARI incidents can influence system metabolism and the body and can cause lust. Eat child reduce so that intake nutrition is not adequate (Solihati et al., 2022). Based on their study, Fikri et al. (2023) mention that a toddler with a history of ISPA has a 95-times higher risk of experiencing stunting. Besides that, based on the study by Himawati et al. (2020), ISP A events show a significant relationship with stunting (m and the body and can cause lust. Eat child reduce so that intake nutrition is not adequate (Solihati et al., 2022). Based on their study, Fikri et al. (2023) mention that a toddler with a history of ISPA has a 95-times higher risk of experiencing stunting. Besides that, based on the study by Himawati et al. (2020), ISP A events show a significant relationship with stunting (p = 0.029). This is because IGF-I levels play a role as a protector against stunting, which inhibits growth cells in muscle and bone in children.

**Factor Diarrhea with Stunts**

Diarrhea is a disease where possible infections cause disturbance. Power absorbs even loss substance nutrition, and if not handled and balanced with appropriate intake, it will fail to grow (Desyanti & Nindy, 2018). Based on a study by Berhe et al. (2019) in Ethiopia, they found that children with diarrhea had a 5.3-times greater risk of experiencing stunting. This same study by Mistry et al. (2019) in Bangladesh found that children who experienced child diarrhea in 3 months had their own connection with stunting (p = 0.006). In line with their study, Tafesse et al. (2021) in South Ethiopia found that exposed children's diarrhea in 2 weeks had its own connection with stunting (p = 0.001). Study This same match with research conducted in Surabaya by Arini et al. (2020) shows that incident diarrhea with frequency over 6 months can result in an incidence of stunting in children. This is caused by lust, which causes a decrease in eating and power, leaving the growing toddler vulnerable to disease, infection, and diarrhea at the same time.

**Conclusion**

Based on the results and discussion in the scoping review, a number of factors proximal to stunting events were identified, including LBW, length of birth, prematurity, order of birth, immunization status, respiratory disease, and diarrhea. The results of this literature study can be used by nurses as enhancement efforts for promotion of health and program control oversight nutrition for mothers at 1000 days of life to prevent stunting.

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**Conflicts of Interest**

The author's views and opinions are those of the article and may not represent the official positions or policies of any organizations to which the author is affiliated.
References


