

Review Article

Environmental factors that affect the incidence of stunting in under-five children: A literature review

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ABSTRACT

Introduction: Stunting and other health issues affecting children under five result from unhealthy environments. Environmental sanitation by providing sanitary latrines and clean water supplies cannot be divorced from its influence. A review of the literature was conducted to assess how healthy latrines and clean water sources can improve stunting in children under the age of five.

Methods: Four databases (Scopus, ProQuest, Science Direct, and Google Scholar) with high and medium-quality standards were used to find the articles for this literature study. The study's quality was judged using Joanna B Institute's criteria. The research is included in the inclusion criteria if it has a critical assessment score of at least 50%. PICOS used as the review's organizing structure.

Results: The availability of clean water sources and sanitary latrines significantly impacts stunting. Access to subpar latrines increases the risk of stunting in children under five. Stunting in children under five is influenced considerably by the availability of safe water sources.

Keywords: environmental factors; stunting; under-five children

INTRODUCTION

Stunting is one of the nutritional issues that Indonesia still has, and it significantly negatively impacts the quality of its people's resources (Bima, 2019). Stunting indicates disruption to the development of a healthy body system (Budge et al., 2019). Environmental conditions are one of the factors affecting human health (Kamagi et al., 2020). In the environment where children live, toddlers who do not apply healthy living behaviour, the child's health condition will be disturbed, especially child nutrition problems such as stunting (Laili, 2019). A study found a link between poor sanitation of household environments (inappropriate latrines facilities) and stunting in rural children aged 6–59 months (Beal et al., 2018; Lobo et al., 2019).

METHODS

Design

In this literature assessment, four databases—Scopus, ProQuest, Science Direct, and Google Scholar—with high

and medium quality standards were used for the literature search.

Inclusion and exclusion criteria

Researchers found up to 1,077 items that matched keywords they used in literature searches through publications in four databases using MeSH-adapted keywords. The search results are reviewed for duplication, after which 443 articles are issued, leaving 191 for items that are not acceptable. After that, 156 more incorrect studies are substituted with the remaining 35 articles. Then, using study themes as inclusion criteria, eliminate getting the most pertinent articles, and you can get up to 13 papers.

RESULTS

Latrine provision factor

According to the study's findings, there is a connection between access to sanitation and instances of stunting in the Simpang Pandan Health Center's working area in the Geragai Subdistrict. The results of the study from Ambarwati et al., (2020) showed when compared to respondents who had access to low-risk sanitation, those with high-risk sanitation had a 16 times greater risk of stunting. As well as respondents who have access to sanitation, the risk is a greater risk of 6.18 times more stunting when compared to respondents who have access to low-risk sanitation.

In a study by Rafita, et al (2020) conducted in Kupang, Indonesia, respondents who have good environmental sanitation and have stunting toddlers or serve stunting as much as 18 (75.0%), while respondents who have poor environmental sanitation and have stunting toddlers or serve

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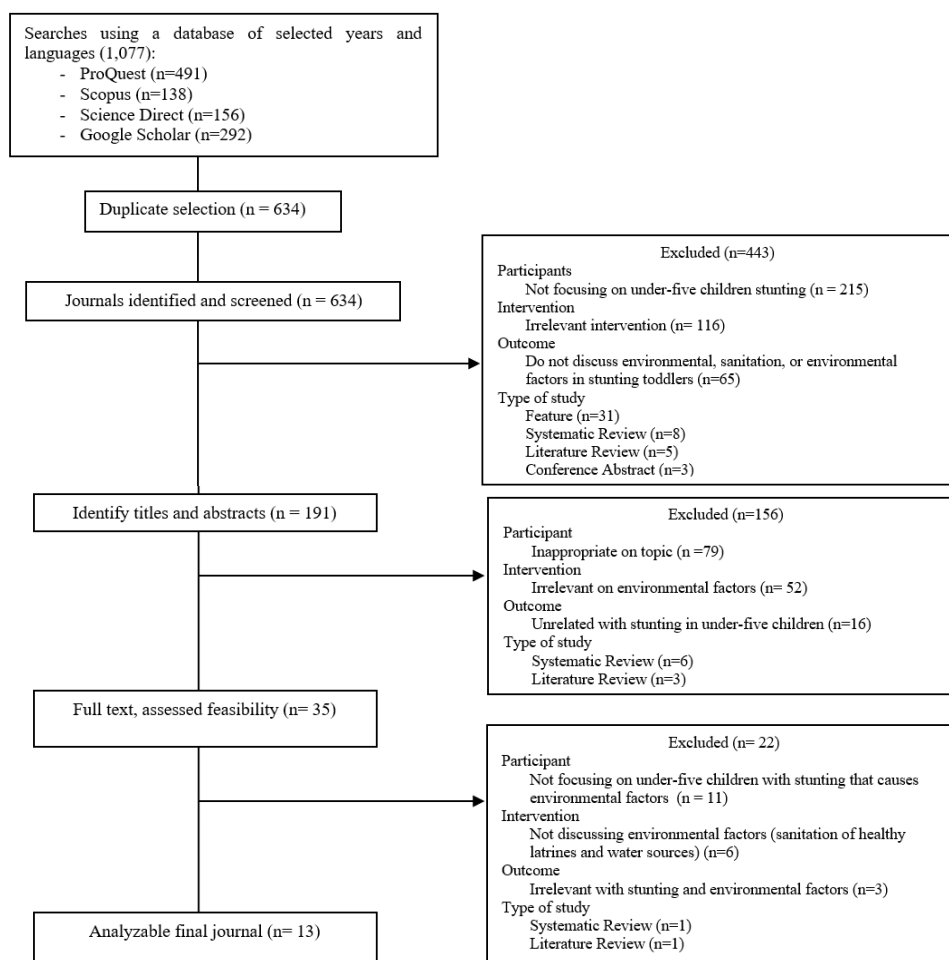


Figure 1. Article Search Flow Diagram

stunting as many as 11 toddlers (42.3 %). Based on the findings of a Chi-Square statistical test, stunting incidents in 2020 in Banua Rantau Village, Banua Lawas District, Tabalong Regency, were linked to environmental sanitation.

Water supply factor

Based on research by Rafita, et.al (2020) in Banua Rantau Village, Banua Lawas District, Tabalong Regency, out of 50 respondents who had stunting toddlers, as many as 29 respondents (58%). Meanwhile, out of a total of 50 respondents who had the availability of unqualified clean water, as many as 32 respondents (64%). The respondents who are not qualified and have a toddler with stunting serve as many as 23 people with stunting (71.9%), while respondents who are qualified and have a toddler with stunting serve as many as 6 people with stunting (33.3%). Chi-Square statistical test results showed a link between the availability of clean water and stunting events in banua rantau village, Banua Lawas district, Tabalong regency. Research conducted in Mozambiques by García Cruz et al., (2017), this study evaluates the state of child development in the central region of Mozambique (Tete province). It identifies sociodemographic, health, and environmental variables as essential factors in stunting toddlers in Tete province. Mozambique has a stunting situation (43.3%) above 40% in all provinces, but the condition is particularly severe in Tete province (52%).

DISCUSSION

Factors providing healthy latrines that affect the incidence of stunting

According to a literature review, the incidence of stunting in children under five can be significantly influenced by factors in the provision of clean latrines (Ambarwati et al., 2020). Compared to toddlers with access to healthy latrines, those who use unhealthy restrooms are more likely to have stunting. This study's results align with the previous study obtained results that families of toddlers with access to unhealthy latrines will be more at risk of stunting compared to toddlers who have access to healthy latrines. This is supported by other research that proves that access to toilets and unhealthy stool disposal will increase the risk of health disorders such as nutritional disorders in children under five (Herawati et al., 2020).

Water source provision factors that affect stunting incidents

Based on the review literature, water source provision factors showed that it can affect stunting events because inadequate water access levels can affect individuals and households through various mechanisms or pathways of disease transmission (Geere and Hunter, 2020). This is in line with several literature searches that show that poor water

quality used in children living in toddlers can affect increasing stunting events, reinforced by findings in Ethiopia revealing that drinking water sources can affect stunting events in toddlers (Kwami et al., 2019). Also supporting this are the study's conclusions Batiro, B., Demissie, T., Halala, Y., & Anjulo, (2017) in Ethiopia revealed that consuming water and using poor water sources is a higher risk of increasing the incidence of stunting in children. Based on some literature searches, stunting can occur due to direct or indirect factors.

CONCLUSION

One of the factors that can have an impact on human health is the environment. This is especially true for the health of young children who are still developing, such as those under five. Environmental sanitation is an activity that aims to improve and maintain basic environmental standards and can affect human welfare. Such conditions include the provision of latrines and waste disposal from all human activities. Similarly, the water factor is essential for children's nutrition fulfilment.

Such is the importance of environmental factors in influencing the health status of toddlers. Then it should be as health workers actively encouraged to provide health promotion as a preventive measure to maintain the environment of the toddler's residence remains in a healthy condition—especially the appeal in the fulfilment of the provision of water sources and healthy latrines.

Declaration of Interest

The authors declare that there is no conflict of interest.

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None.

Data Availability

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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