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BREASTFEEDING PRACTICE ASSOCIATED WITH STUNTING IN URBAN AND RURAL AREAS, SCOOPING REVIEW

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ABSTRACT
Breastfeeding especially exclusive breastfeeding is one of the factors that can prevent the risk of stunting in children. However, breastfeeding practices are often not optimized due to various factors that become obstacles. Factors that influence can include the area of residence such as disparities that can be found in urban and rural area, access to education, access to health services, fulfillment of nutrition and regional inequality. Objective: This scoping review aims to explore breastfeeding practices on the incidence of stunting by urban and rural areas. Method: The authors have systematically analyzed studies published between 2019 and 2024 through the identification of articles in Scopus, Pubmed, and Science Direct database. The keywords used to support the articles search were "experience OR practice" AND mother AND breastfeeding AND "stunting OR malnutrition". Results: A total of 10 articles were analyzed and several themes were obtained, namely: 1) exclusive breastfeeding with the incidence of stunting, 2) factors that influence exclusive breastfeeding, and 3) the benefits of breast milk, 4) the effect of region of residence on the incidence of stunting. Conclusions: This study concluded that breastfeeding practices can be influenced by the mother's experience when breastfeeding, education, age of the mother when breastfeeding as well as the area of residence and the environment around the mother. So it is necessary to improve the services needed so that it can reduce the incidence of stunting.

Keywords: breastfeeding practices; breastfeeding mothers; malnutrition; rural; stunting; urban

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INTRODUCTION

Stunting is a condition of growth failure in children under five years of age (under five) due to chronic malnutrition and repeated infections, especially in the first 1,000 days of life (HPK) period, namely from the fetus to 23 months old(Kemenkes, 2020). Stunting is a cumulative condition caused by a lack of nutritional intake that should be fulfilled at the stage of child development which not only affects the child's height, but can also affect physical and cognitive development so that it can certainly affect the ability and quality of the child(Paskala Tri, 2020). Stunting is a condition where a child's height or length is too low or below the z-score threshold adjusted for the child's age(Paskala Tri, 2020). Children are classified as stunted if their length or height is below -2 standard deviations of children of their age(WHO, 2023b). Global predictions suggest that by 2020 one in five children are likely to be stunted and it is most prevalent in developing and middle- and low-income countries(Vilcins et al., 2018). Stunting in some regions such as Africa is reported to be around 39%, while stunting in children living in the Asian region is 83.8 and another 5.1 million children in Latin America and the Caribbean(Danso & Appiah, 2023). The Indonesian Ministry of Health states that the incidence of stunting in children under the age of five is still relatively high at 30.8%(Izwari, 2020)

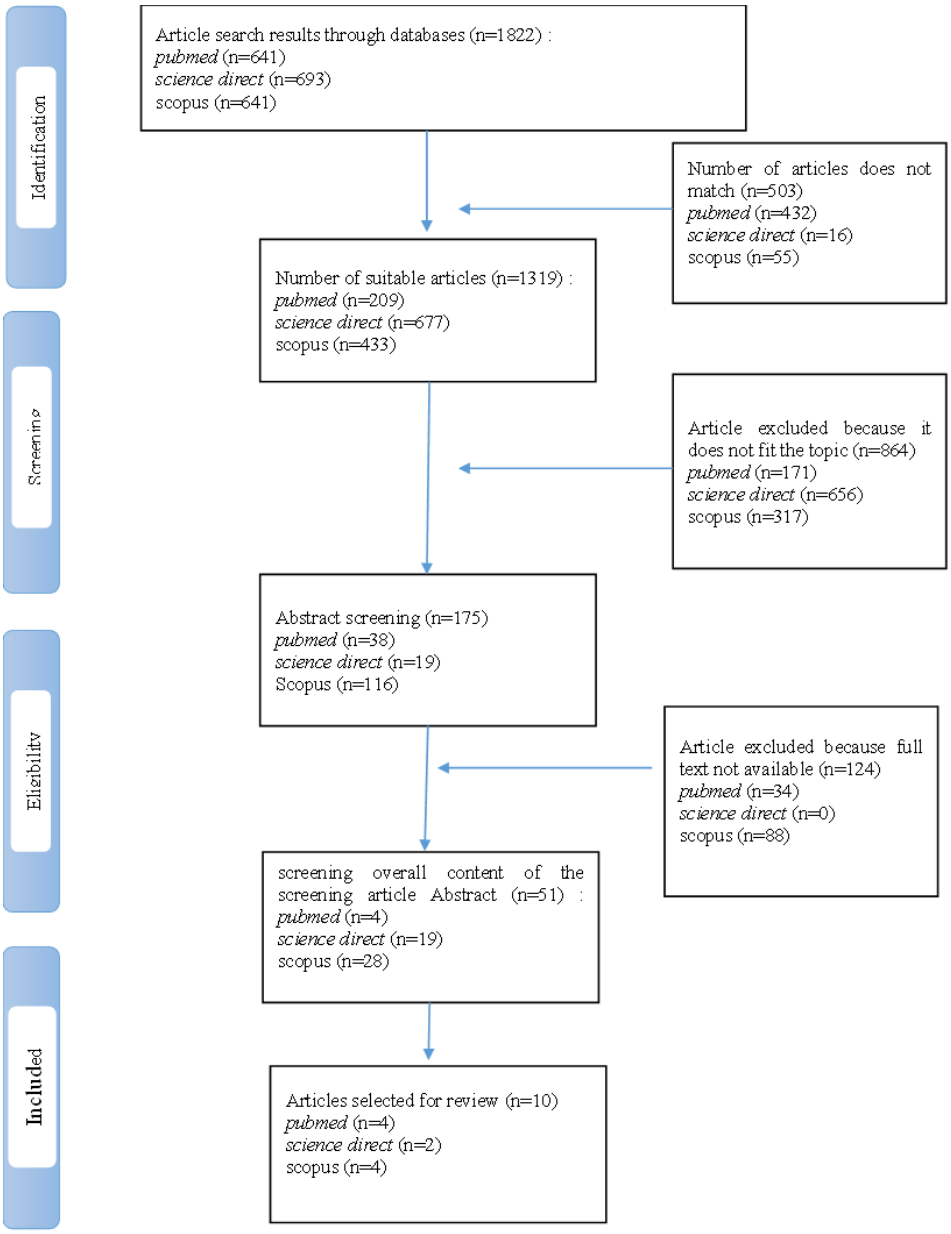
Stunting is a cognitive disorder due to malnutrition, especially in the first 1000 days, which can be caused by various factors, both direct and indirect, including breastfeeding history, exclusive breastfeeding, social economic status, environment and low birth weight in infants to short maternal stature(Izwari, 2020). Stunting can also be caused by many factors such as problems in the endocrine system, maternal knowledge, frequent infections in the early days of a child's life. If stunting continues, it is estimated that 127 million children under 5 years old will be stunted by 2025(WHO, 2023b). To prevent the increase in the incidence of stunting in children, the WHO targets that by 2025 the stunting rate in children under 5 years old will drop by 40%(WHO, 2018). In Indonesia, stunting prevention focuses on addressing the causes of stunting in nutrition, namely factors related to food security, especially access to nutritious food (food), social environment related to infant and child feeding practices (parenting), access to health services for prevention and treatment (health), and environmental health which includes the availability of clean water and sanitation facilities (environment)(Merysa et al., 2022). These four factors indirectly affect the nutritional intake and health status of mothers and children. Intervention in these four factors is expected to prevent malnutrition, both under and overnutrition(Kemenkes, 2020).

There are many factors that contribute to the incidence of stunting including the economy, health system, education level, culture, environmental hygiene and breastfeeding rates including long-term breastfeeding (exclusive breastfeeding)(Cetthakrikul et al., 2018). Research conducted by Sserwanja(Sserwanja et al., 2021) states that in rural and urban communities there are striking gaps both in terms of region, access to nutrition and health, residence and education, making the prevalence of stunting in rural areas higher than urban areas. In a study conducted by Cetthakrikul on stunting in Thailand also mentioned that there are many factors that cause stunting(Cetthakrikul et al., 2018). These factors are categorized into several, namely child conditions caused by breastfeeding that is stopped before the child is 2 years old, premature birth and slow fetal growth during pregnancy. Another factor is the mother's condition, which is caused by not fulfilling the mother's nutrition during the pregnancy period until after birth(Cetthakrikul et al., 2018). One study also showed that the worse the breastfeeding, the higher the risk of stunting in children(Elsa et al., 2023). Another study also mentioned that children who are not exclusively breastfed are 3.1 times more at risk of stunting(Sari et al., 2021). Therefore, based on the data and descriptions that the purpose of this article is to explore and find out how breastfeeding practices relate to the incidence of stunting based on region in urban and rural areas, and to find out the incidence of stunting is higher in urban or rural areas.

METHOD

This research uses the scoping review method. The steps in conducting a scoping review according to Arksey and O'Malley are as follows: 1) determine research questions, 2) identify relevant literature, 3) select studies, 4) map data, 5) summarize, synthesize data, and report the results of data analysis, and 6) include expert consultation. In the initial search, data was filtered with the initial filter checklist “free full text”, “Publication from 2019-2024”, “Randomized Controlled Trial” Then continued with identification questions to find the relationship of breastfeeding practices on the incidence of stunting in urban and rural areas using the PICO framework. The question posed in this article is “are breastfeeding practices associated with stunting in urban and rural areas?”. The PICO format allows for the identification and review of literature that is relevant to the question. In this study, the identification of research articles was filtered by the author using inclusion and exclusion criteria. The inclusion criteria in the article search included: 1) articles that discuss the experience of breastfeeding mothers in children with stunting conditions, 2) articles discuss

the practice of breastfeeding mothers in children, 3) articles in English or Indonesian, and 4) articles published in 2019-2024, 5) articles can be accessed in fulltext. The exclusion criteria were: 1) the article involved children with special needs, 2) the article was a literature review or scoping review. The selection of articles was carried out through online electronic media from several databases, namely: 1. Scopus database, 2. Pubmed, and 3. Science Direct. The keywords used in the search were "experience OR practice" AND "mother AND breastfeeding" AND "stunting OR malnutrition". After searching several databases that have been determined, the number of articles obtained is 1822 articles. The detailed stages of article selection can be seen in the PRISMA diagram below (Figure 1).



RESULT

Based on the literature review, we found several themes describing breastfeeding practices in stunting based on urban and rural areas. The research articles reviewed consisted of 10 articles with cross-sectional, prospective cohort, case control, experimental, RCT and qualitative study designs. This literature study was conducted with various inclusion and exclusion criteria that have been determined from each study. More clearly, the author describes the

results of the literature review into several themes, namely 1) the relationship between exclusive breastfeeding and the incidence of stunting, 2) the benefits of breastfeeding for maternal and child health, 3) the factors of rural and urban differences in the incidence of stunting.

No	Author (Year)	Title	Objective	Desain
1	Faye, C. M., Fonn, S., & Murage, E. K. (2019)(Rahmana & Lestari, 2020)	*Factors Associated With Recovery From Stunting Among Under-Five Children In Two Nairobi Informal Settlements*	To determine the factors associated with linear growth after stunting and how to recover from stunting.	Kualitatif Purposive sampling
2	Sirajuddin, et al (2020)(Sirajuddin et al., 2020).	*Breastfeeding Practice can Potential to Prevent Stunting for Poor Family*	To analyze the effect of breastfeeding on the prevention of stunting in poor families.	Cross-sectional
3	Islam, M., et al (2019)(Munirul Islam et al., 2019)	*Severe Malnutrition in infants Aged <6 months-Outcomes and Risk Factors in Bangladesh: A Prospective Cohort Study*	To identify risk factors for multiple acute malnutrition and provide an overview of clinical outcomes and anthropometric strategies.	Prospektif Kohort Study
4	Fatima, S,. et al (2020)(Fatima et al., 2020).	*Stunting and Associated Factors in Children of Less than Five Years: A Hospital-Based Study*	To determine the frequency of stunting and factors associated with stunting in children aged less than five years in Lahore tertiary care hospital	Cross sectional Non-probability convenient sampling
5	Widyaningsih, V, et al. (2021)(Widyaningsih et al., 2021)	*Determinants Of Socioeconomic And Rural-Urban Disparities in Stunting: Evidence From Indonesia*	to examine factors associated with stunting by SES and rural-urban status, and to assess the determinants of stunting disparities by SES and rural-urban status	Kualitatif Purposive sampling
6	Rocha, H, et al. (2021)(Rocha et al., 2022).	*Undernutrition and Short Duration of Breastfeeding Association with Child Development: a Population-Based Study*	To determine the association of undernutrition and duration of breastfeeding with the development of children aged 0 to 66 months living in Ceara, Brazil.	Cross sectional Random sampling
7	Wassie, E.G., Tenagashaw, M.W & Tiruye, T.W. (2022)	*Women empowerment and childhood stunting: evidence from rural northwest Ethiopia*	To determine the association of women empowerment with the incidence of childhood stunting in rural northwest Ethiopia.	Cross-sectional
8	Vonaesch, P., et al (2021)(Vonaesch et al., 2021)	*Factors Associated with Stunted Growth in Children Under Five Years in Antananarivo, Madagascar and Bangui.*	To assess and compare factors associated with stunting in two urban areas.	Case Control Study

No	Author (Year)	Title	Objective	Desain
9	Sserwanja, Q. et all. (2021)(Sserwanja et al., 2021)	Rural and Urban Correlates of Stunting Among Under Five Children in Sierra Leone: A 2019 Nationwide Cross Sectional Surve.	To determine the rural-urban correlates of stunting among children under 5 years of age.	Cross Sectional
10	Danso, F & Appiah, M (2023)(Danso & Appiah, 2023).	*Prevalence and Associated Factors Influencing Stunting and Wasting Among Children of Ages 1 to 5 years in Nkwanta South Municipality, Ghana*	To assess the prevalence and associated factors of undernutrition among children of ages 1 to 5 years in Nkwanta South Munici Pality	Descriptive Cross-sectional

Relationship between Breastfeeding and the Incidence of Stunting

Of the ten articles reviewed in this literature study, the articles described a significant influence between exclusive breastfeeding and the incidence of stunting, in addition to the support of surrounding people both family and friends during the breastfeeding period(McLardie-Hore et al., 2022).Furthermore, one study illustrated that of children aged 0-59 months, the older the age, the higher the likelihood of experiencing stunting. This is due to the impact of the transition in breastfeeding, as the child gets older, the frequency of breastfeeding also decreases. Reduced breastfeeding is usually followed by complementary feeding but is not balanced with the nutrients and food diversity needed by the body(Wali et al., 2020). In addition, children who are not exclusively breastfed for the first 6 months, children with malnutrition, and short duration of breastfeeding are more likely to experience growth and development disorders(Rocha et al., 2022),(Adamu et al., 2017).

Factors Affecting Exclusive Breastfeeding

There are several factors that can influence exclusive breastfeeding practices in children. Many working mothers with stunted and non-stunted children do not exclusively breastfeed because they have to go to work and are unable to breastfeed their children fully(Faye et al., 2019). They assume that the breast milk contained in mothers who have contraceptives installed will cause their babies to become ill. However, their findings also explain that the main cause of poor nutrition in children is poverty so that parents cannot provide proper nutrition for their children(Faye et al., 2019). In addition, exclusive breastfeeding practices are also influenced by family involvement. The role of a co-resident father or grandmother can influence breastfeeding practices(Noor & Muniroh, 2023).

Benefits of breastfeeding

Breastfeeding infants from 0 months to the first 6 months of life can fulfill their growth and development needs so that it is useful in improving the condition of children who experience acute malnutrition(Munirul Islam et al., 2019). Research conducted by(Rocha et al., 2022) also proved that short duration of breastfeeding affects the high incidence of developmental disorders in children. In addition, breastfeeding practices are also beneficial for breastfeeding mothers because breastfeeding lowers the risk of chronic diseases(Cetthakrikul et al., 2018).
Some other benefits that can be obtained by breastfed babies are; 1) Physical aspects: infants will have healthy eating habits, stable metabolic parameters, good weight gain and body mass index (BMI), prevent obesity, good cholesterol levels, and prevent cardiovascular disease; 2) Cognitive aspects: good cognitive development, higher IQ, better learning and decision-making skills, and improved visual and auditory memory capacity; 3) reduced hospitalization time and improved bonding between mother and child(Couto et al., 2020).

Area of Residence Factors

The region of residence has an influence on the incidence of stunting, where policies, programs, and interventions needed to reduce stunting may differ between rural and urban areas(Widyaningsih et al., 2021). Women's empowerment that is not accompanied by increased education and young maternal age is a problem for stunting in rural areas compared to parity and education in urban areas(Sserwanja et al., 2021; Wassie et al., 2024). In addition, malnutrition, especially in rural areas, causes mothers to be malnourished because the fulfillment of maternal nutrition in early pregnancy determines the health and nutrition of children later in life(Sserwanja et al., 2021).

Understanding the various factors associated with stunting in different settings is key to designing effective and context-appropriate interventions.

In one study conducted in Ethiopia, high gender inequality is the cause of women's marginalized roles in education, socioeconomic access and cultural oppression. These conditions can contribute to the high prevalence of stunting among children in the country(Wassie et al., 2024). The prevalence of stunting is higher among children from poor families or living in rural areas, but information on stunting and risk factors for stunting by socioeconomic status (SES) and region of residence is lacking(Widyaningsih et al., 2021).

DISCUSSION

WHO and UNICEF have recommended that children should be breastfed within the first hour of birth and exclusively breastfed for the first 6 months of life and then continued until the child is 2 years old or older with complementary feeding(Danso & Appiah, 2023). In addition, maternal age in rural areas of less than 35 years is more likely to be one of the causes of stunting compared to mothers aged 35 to 49 years. This possibility is higher among adolescent mothers. This could be due to the fact that younger mothers lack the experience or knowledge necessary to provide proper care for their children(Sserwanja et al., 2021).In a study conducted in Pekanbaru City, it was found that the reason why mothers did not breastfeed their children aged 0-6 months was due to the lack of breast milk since the baby was born. This was due to the lack of lactation preparation during pregnancy(Rahmana & Lestari, 2020). The study also mentioned that children who are not exclusively breastfed are at 10 times greater risk of stunting compared to children who are breastfed.

This is because breast milk is the best food. Breastfeeding is beneficial for mothers and babies because breast milk is a natural food that contains many nutrients, is economical and easy to digest. Breast milk supports infant growth, especially in height growth because the calcium in breast milk is more efficient and easily absorbed than formula milk(Elsa et al., 2023)(Rachmah et al., 2022).In accordance with WHO recommendations, the energy and nutritional needs of infants at the age of 6 months and above cannot be met by breast milk alone and require complementary foods. Low family economic factors are also one of the causes of unmet child nutrition during complementary feeding, which can increase the incidence of stunting at the age of >6 months(Fitri & Ernita, 2019). So that breastfeeding, especially exclusive breastfeeding, is one way that can be done to prevent stunting in children. On the other hand, after the child is 6 months old, the child's needs must be met by providing appropriate complementary foods and accompanied by breastfeeding(Sirajuddin et al., 2020)(Wali et al., 2020).

Mothers who exclusively breastfeed their babies for up to six months are proven to provide tangible benefits for the growth and development of the baby during the growth process(Fitri & Ernita, 2019). In a study conducted by Khoiriyah in 2019 also stated that infants who were

not exclusively breastfed had a prevalence of stunting up to 63.3%(Ilmi Khoiriyah et al., 2021). The importance of breastfeeding is because the composition contained in breast milk can meet the needs of babies during the first six months of life. Breastfeeding has been shown to protect infants from diseases such as diarrhea, pneumonia, and reduce the risk of obesity in childhood and adolescence(WHO, 2023a). The fulfillment of infant nutrition is influenced by the macronutrient components contained in carbohydrates, which are abundant in breast milk. This content can certainly prevent malnutrition and support the growth and development of children to prevent stunting(Fitri & Ernita, 2019)(Kim & Yi, 2020).

In addition, some other benefits that can be obtained by babies if they are exclusively breastfed are; 1) Physical aspects: babies will have healthy eating habits, stable metabolic parameters, good weight gain and body mass index (BMI), prevent obesity, good cholesterol levels, and prevent cardiovascular disease; 2) Cognitive aspects: good cognitive development, higher IQ, better learning and decision-making skills, and improved visual and auditory memory capacity(Couto et al., 2020). In addition, exclusive breastfeeding affects the prevention of stunting because breast milk has a function as an anti-infective(Ilmi Khoiriyah et al., 2021). The findings in this literature also illustrate the important role of family in achieving the success of exclusive breastfeeding. Family support, which includes information support, instrumental support, emotional support and appreciation support, has been shown to be associated with the success of exclusive breastfeeding in infants(Rachmah et al., 2022). Not only that, family support and high levels of education of mothers and fathers play an important role in the success of exclusive breastfeeding in working mothers(Fatima et al., 2020). Working mothers who live in urban areas have fewer stunted children, 53.3% compared to mothers who live in rural areas at 71% (Astari et al., 2023). This is influenced by the education factor of the mother and father, because if the father has a higher education than the mother, then the father can educate and input to the mother about the importance of proper breastfeeding(Ilmi Khoiriyah et al., 2021)(Astari et al., 2023). Thus, providing information about exclusive breastfeeding must also be given to family members as the closest person who plays an important role in supporting the breastfeeding process, so that breastfeeding can take place more optimally(Fitri & Ernita, 2019). Based on the results of the literature review presented by the author, it can be concluded that there is a relationship between breastfeeding practices and the incidence of stunting based on urban and rural areas.

CONCLUSION

The practice of breastfeeding by providing appropriate breast milk to infants can be a factor that functions in reducing the incidence of stunting. All parties in the environment around the mother, especially the family, need to be involved to increase the success rate of breastfeeding, especially exclusive breastfeeding for the first 6 months of the baby's life. In addition, regional differences such as rural and urban areas are also a factor in the occurrence of stunting, where several studies show that stunting is higher in rural areas and in mothers with young age so that to reduce the incidence of stunting the interventions to be provided are expected to be adapted to rural and urban areas.

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