



A Literature Review on the Nexus of Exclusive Breastfeeding and Stunting

Dewi Anjani Mandati^{1*}, Apoina Kartini¹, Syamsulhuda Budi Musthofa¹

¹Master of Health Promotion, Faculty of Public Health, Diponegoro University, Semarang, Jawa Tengah, Indonesia

Received: October 19, 2023

Revised: November 29, 2023

Accepted: December 25, 2023

Published: December 31, 2023

Corresponding Author:

Dewi Anjani Mandati

dewianjanimandati@gmail.com

DOI: [10.29303/jppipa.v9iSpecialIssue.6283](https://doi.org/10.29303/jppipa.v9iSpecialIssue.6283)

© 2023 The Authors. This open access article is distributed under a (CC-BY License)



Abstract: Stunting is a serious nutritional problem faced by almost all developing countries, including Indonesia. Exclusive breastfeeding is one of the factors that influence the incidence of stunting. Infants who do not receive exclusive breastfeeding are more likely to experience stunting, which will cause children to become easily ill, and it is feared that later it will cause impaired productivity after adulthood. This article review aims to understand more about the relationship between exclusive breastfeeding and stunting. The search for scientific articles was conducted through electronic databases such as Science Direct, Scopus and PubMed and 4 articles published in the last 5 years (2018-2013) were selected. The study results from the 4 articles on average informed that exclusive breastfeeding is associated with stunting. In the reviewed articles, mothers who received nutrition counseling may be effective in reducing childhood stunting accompanied by improved feeding practices. To overcome this nutritional problem, the Indonesian government created a program called Keluarga Sadar Gizi (Kadarzi) and Puskesmas is one of the institutions that plays an important role in accelerating efforts to reduce stunting. This study concluded that there is an association between exclusive breastfeeding and stunting.

Keywords: Growth Disorders; Exclusive Breastfeeding; Stunting.

Introduction

Breast milk is the ideal nutrition for infants because it contains nutrients that best suit the needs of infants and contains a set of protective substances against various diseases (Pratama, 2021). Exclusive breastfeeding is when a baby is only given breast milk for 6 months without any additional food (Rahman et al., 2020). During that time the baby does not get additional fluids such as formula milk, orange water, tea water, honey, water and is not given additional food such as bananas, biscuits, milk porridge, rice team porridge, and so on (L. M. B. Ginting & Besral, 2020). Breastfeeding has also been recognized as the optimal method for ensuring nutrition in infants (Ireland et al., 2015; Kanhadilok & McGrath, 2015).

Infants aged 0-6 months according to World Health Organization (WHO) recommendations only need breast milk without any liquid or solid food, which is

called exclusive breastfeeding (Amalia & Windari, 2023; Fitri et al., 2014). The affirmation of exclusive breastfeeding is also regulated in Government Regulation No. 33/2012 Article 6 which reads "Every mother who gives birth must provide exclusive breastfeeding to the baby she gives birth to" (Fitri et al., 2014).

Basically, breastfeeding has a huge impact on the growth and development of babies aged 0-6 months, so babies who do not get enough breast milk will experience growth and development disorders, one of which is stunting (Ruaida, 2018). Meanwhile, babies who are not exclusively breastfed have a higher potential for stunting, because exclusive breastfeeding is one of the protective factors against stunting in infants (Pratama, 2021). Child stunting is a public health problem in many low- and middle-income countries, as stunting is associated with short- and long-term negative effects on

How to Cite:

Mandati, D.A., Kartini, A., & Musthofa, S.B. (2023). A Literature Review on the Nexus of Exclusive Breastfeeding and Stunting. *Jurnal Penelitian Pendidikan IPA*, 9(SpecialIssue), 1-7. <https://doi.org/10.29303/jppipa.v9iSpecialIssue.6283>

children's cognitive development, physical health, and school outcomes (Faye et al., 2019).

Stunting is a serious nutritional problem that can jeopardize the future of children in the world, including in Indonesia. Although it has decreased to 24.4% in 2021, the stunting prevalence rate in Indonesia still exceeds the WHO recommendation of 20%. The Coordinating Ministry for Human Development and Culture of the Republic of Indonesia revealed that the government has set the problem of stunting as a national priority issue in the 2020-2024 National Medium-Term Development Plan (RPJMN) with a target of reducing it from 24.4% to 14% by 2024 (Priatmadani et al., 2021).

Malnutrition during childhood is one of the major problems in most developing countries and is the direct or latent cause of death for most recorded child deaths. Children's immune systems are still forming so malnutrition exacerbates the impact of other diseases such as malaria, anemia and diarrhea that are common in most resource-poor countries (Gayawan & Augustine, 2023).

Stunting is a growth delay in children under five years old as a result of chronic malnutrition that makes children appear short for their age. The problem of stunting in toddlers will have an impact on vulnerability. Endurance, impaired cognitive development, mental development, motor power, and can result in death (Ummah & Mediani, 2023; Yahya & Hanum, 2023).

In addition, stunting is also defined as a condition of growth failure due to chronic malnutrition and psychosocial stimuli as well as exposure to repeated infections in the first 1000 days of life from the fetus to the age of 2 years (Rahayu et al., 2023; Surani & Susilowati, 2020). The first thousand days of life (1000 HPK), namely 270 days in pregnancy and 730 days in the baby's first life, are very important because the things that are caused are permanent and cannot be repaired. Pregnant women and toddlers who pay less attention to their food intake will have an impact on nutritional problems or nutritional status which will then affect their development in the future (Hijrawati et al., 2021).

To overcome these nutritional problems since 2010 internationally known as the Sun Movement (Scaling Up Nutrition) and in Indonesia this effort developed into a National Movement for nutrition awareness to accelerate nutritional improvement in the first 1000 days of life (1000 HPK Movement). One of the indicators of assessing the achievement of nutritional interventions is the protection of protein adequacy in breastfeeding mothers and the protection of children under two years of breastfeeding (Hijrawati et al., 2021).

Based on the description of the problem above, the purpose of this study is to review the latest literature on

the extent of the relationship between exclusive breastfeeding and stunting.

Method

This literature review study uses a qualitative approach model that reviews the relationship between exclusive breastfeeding and stunting. The reference search was conducted in October-November 2023, through several types of electronic databases, namely Science Direct, Scopus, and PubMed. The keywords used in this article search are terms obtained from MeSH. Then, the keywords for searching articles in the data base have been obtained, namely: "Mother-Infant" OR "Mother Child" AND "Exclusive Breastfeeding" OR "Breastfeeding, Exclusive" OR "Exclusive Breast Feeding" AND "Stunting" OR "Growth Disorders". A flowchart of the article selection process is shown in Figure 1.

There were 714 articles with these keywords in the last 5 years (2018 - 2023) by sorting the types of Meta-analysis, Review and Systematic Review articles. Furthermore, screening was carried out on articles that were not relevant to the topic of this review and were not available in full text, 29 articles fell into this criterion. Then from these articles there were 685 articles that were not related to the relationship between exclusive breastfeeding and stunting, resulting in 4 articles selected in this review. It shown in Figure 1.

Result and Discussion

In table 1, the average informs that there is an association between exclusive breastfeeding and stunting. In the reviewed articles, mothers who received nutrition counseling may be effective in reducing childhood stunting accompanied by improved feeding practices.

Toddlers are a group that is vulnerable to malnutrition (Amalo & Davidz, 2023). In anticipating these nutritional problems, it can be done by fulfilling balanced nutrition at 1000 HPK, which is very important for children, one of which is through exclusive breastfeeding (Darus, 2023). Breast milk is the best food for babies because it contains nutrients that are in accordance with the needs of babies (Pratama, 2021). The Lancet Breastfeeding 2016 states that breastfeeding can reduce infant mortality due to infection by 88%, besides that breastfeeding also contributes to reducing the risk of stunting in later life (Sitompul et al., 2023). The selected articles were reviewed and are presented in Table 1.

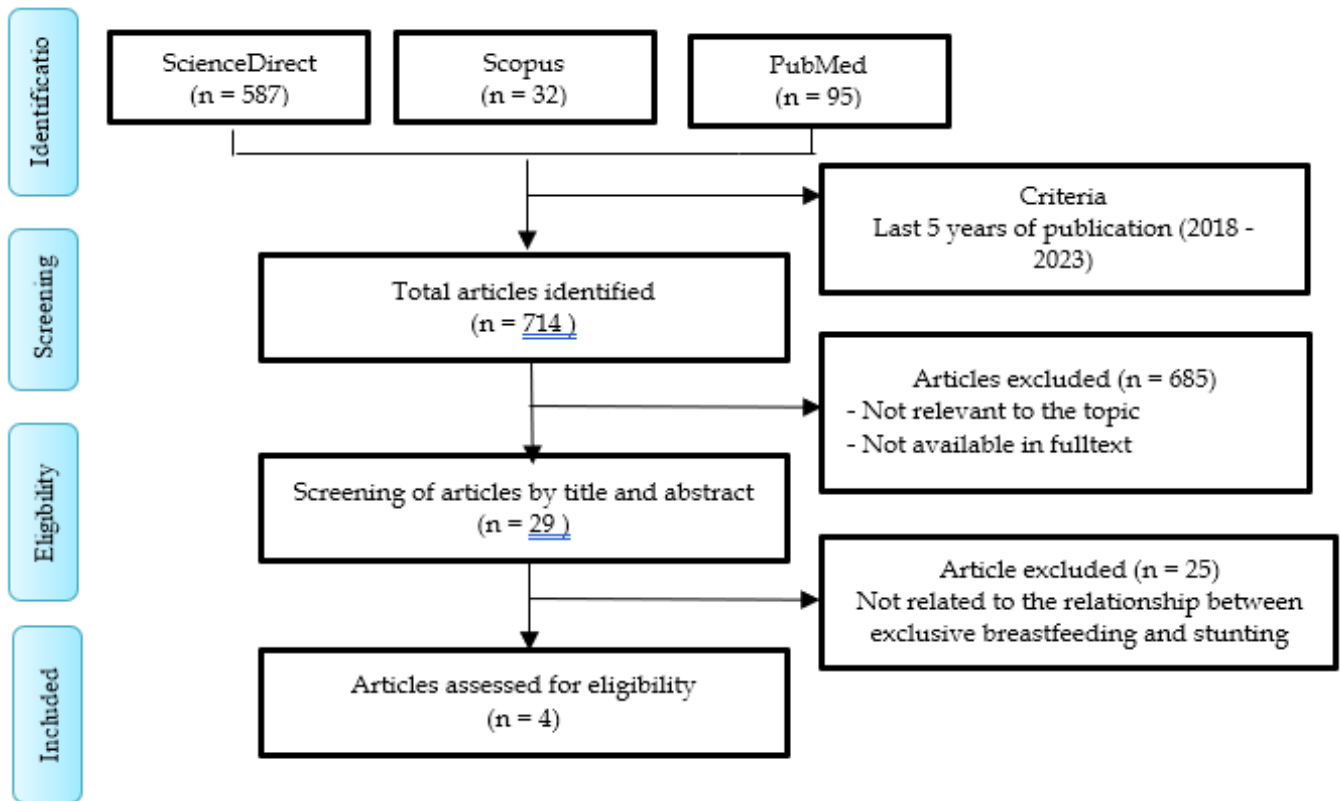


Figure 1. Flowchart of the article selection process

Table 1. Summary of Articles that Meet the Research Objectives

Title	Researcher	Results
Poor breastfeeding, complementary feeding and dietary diversity in children and their relationship with stunting in rural communities; [Pobre lactancia materna, alimentación complementaria y diversidad de la dieta, y su relación con la baja talla en comunidades rurales]	(Zaragoza-Cortes et al., 2018)	A quantitative study using the 24-hour recall method with 189 pairs of mothers and children as respondents found that children who were not exclusively breastfed were almost twice as stunted as children who were breastfed.
Maternal nutrition counselling is associated with reduced stunting prevalence and improved feeding practices in early childhood: A post-program comparison study	(Mistry et al., 2019)	A quantitative cross-sectional study with 3,009 mother-child pairs from two countries as respondents found that nutrition counseling for mothers may be effective in reducing childhood stunting accompanied by improved optimal feeding practices in children under 5 years of age.
Young maternal age is a risk factor for child undernutrition in Tamale Metropolis, Ghana	(Wemakor et al., 2018)	A quantitative study with a case control approach on 300 pairs of mothers and children as respondents, it was found that children of adolescent mothers were 8 times more likely to be stunted, 3 times more likely to be wasted, and 13 times more likely to be underweight than children of mature mothers.
Social, biological, and programmatic factors linking adolescent pregnancy and early childhood undernutrition: a path analysis of India's 2016 National Family and Health Survey	(Nguyen et al., 2019)	Using secondary data from India's 2016 National Family and Health Survey, this quantitative study found that teenage pregnancy was associated with child malnutrition due to poor complementary feeding practices.

However, the coverage of exclusive breastfeeding has not yet reached the national target set by the Ministry of Health (Kemenkes) of the Republic of Indonesia, which is 80%. Based on data from the Indonesian health profile, exclusive breastfeeding coverage in 2018 was 68.74%, while in 2019 exclusive breastfeeding coverage decreased to 67.74% (Vonny Khresna Dewi, Tut Barkinah, 2023).

One of the impacts if babies do not get exclusive breastfeeding is insufficient nutrition which will have an impact on the growth and development of children. This is often referred to as stunting (Darus, 2023). Stunting is associated with exclusive breastfeeding and early complementary feeding, (Amalo & Davidz, 2023). In addition, stunting can also affect brain growth and development (Rahayu et al., 2023).

Breast milk has a nutritional composition that matches the nutritional needs of children and is believed to have a positive influence on the growth and development of babies. Therefore, proper breastfeeding practices are the most effective way to fulfill nutritional adequacy in children. The practice of exclusive breastfeeding is effective in preventing stunting in children from poor families because based on research the percentage of stunting in children who are fully breastfed is lower than children who are not fully breastfed for 0-24 months (Sirajuddin et al., 2020).

In accordance with research conducted by Zaragoza-Cortes et al (2018), he stated that children who do not get exclusive breastfeeding can experience stunting almost twice as much as children who get breast milk. The importance of exclusive breastfeeding can increase endurance and form antibodies in children because breast milk is the best nutrition for babies (Santoso et al., 2023). Infants who are not exclusively breastfed are more likely to experience stunting, which will cause the child to become easily ill, and it is feared that it will cause impaired productivity after adulthood (Parellangi et al., 2023). In addition, breastfed children have better intelligence test results, have a lower risk of obesity, and in adulthood are less likely to develop diabetes (Santoso et al., 2023).

Furthermore, undernutrition has both short-term and long-term health impacts on children and can adversely affect economic productivity by causing serious consequences on adult life in terms of physical growth, work capacity, reproductive performance and risk of chronic diseases (Danso et al., 2023). It can also affect children's susceptibility to disease (Degarege et al., 2015). Therefore, appropriate nutrition is required during childhood to ensure optimal growth, proper organ development and function, a strong immune system and cognitive development in children (Darsene et al., 2017).

Research conducted by Wemakor et al (2018) found that children of adolescent mothers were 8 times more likely to be stunted, 3 times more likely to be wasted, and 13 times more likely to be underweight than children of adult mothers. Adolescent mothers also have a limited role in the infant feeding decision-making process. Therefore, support influences breastfeeding practices and it is important for health workers to ensure that infant feeding knowledge is shared with the mother's family where infant feeding choices are made. This will increase support for adolescent mothers, and may also have a positive impact on child nutritional status (Jama et al., 2018; Nhamoca & Maritz, 2022).

Furthermore, the nutritional status of infants born to adolescent mothers may be less optimal than that of infants born to older mothers. Therefore, exclusive breastfeeding practices must be balanced so that infants can optimally meet their nutritional needs through breast milk. However, inappropriate feeding practices by teenage mothers are still common. This is due to a lack of knowledge about how infant feeding decisions are made by teenage mothers, especially in resource-limited environments, which is one of the contributing factors (Jama et al., 2018).

Young mothers are associated with an increased risk of preterm birth and intrauterine growth restriction, infant mortality and child malnutrition. Children of teenage mothers have a 20-30% increased risk of low birth weight and preterm birth. These findings are consistent with a large body of evidence showing that teenage motherhood adversely affects newborns (Fall et al., 2015).

Meanwhile, maternal education also affects stunting, as does family income. Integrated and multisectoral programs are needed to increase family income, maternal education, maternal nutrition knowledge and exclusive breastfeeding to reduce the incidence of stunting (Amalo & Davidz, 2023). Therefore, efforts are needed to improve the knowledge of every prospective mother by providing education on nutritional needs for pregnant women so as to prevent LBW and short body length and postpartum education for exclusive breastfeeding (Syakur et al., 2023).

Good nutrition knowledge of mothers or caregivers protects children from events that cause low weight-for-age and low height-for-age (Region et al., 2022). While the results of a study conducted by Region et al., (2022) stated that there was no relationship between maternal nutritional knowledge and the nutritional status of toddlers even though wasting showed a decreasing pattern as nutritional knowledge increased. He also stated that based on the results of his study underweight was significantly higher in children whose mothers or caregivers were farmers, therefore proper nutrition

education with a focus on infant and young child feeding practices should be promoted during antenatal care and child welfare clinics. In addition, she also mentioned that family planning services targeted specifically at adolescent girls should be conducted to prevent teenage pregnancy as malnutrition is more likely to occur in children born to teenage mothers.

The Community Health Center or commonly called Puskesmas is one of the institutions that plays an important role in accelerating efforts to reduce stunting. In accelerating the reduction of stunting, there are several obstacles including limited staff resources and concurrent positions, availability and suitability of anthropometric tools, lack of coordination in planning activities between management and program officers, family fear of negative stigma associated with stunting, and low community participation (Ginting et al., 2024).

The Indonesian government created a program to address the problem of malnutrition called Family Nutrition Awareness (KADARZI). Indicators to assess KADARZI status are weighing, eating a diverse diet, breastfeeding, using iodized salt, taking vitamin A. Infants are weighed monthly to monitor their growth and development. Infants are weighed every month to monitor their growth and development. Toddlers aged 1 to 5 years are weighed every month at Posyandu (Rosalina et al., 2023).

Conclusion

This study concluded that exclusive breastfeeding is closely related to stunting. Infants who are not exclusively breastfed are more likely to be stunted. Meanwhile, children of young mothers or teenage mothers are more likely to experience nutritional problems due to the lack of knowledge and readiness of the mother to care for the child. In addition, young mothers are considered not yet able to be independent because they are economically unstable, so they are not involved in making decisions to care for their babies, which has an impact on the termination of exclusive breastfeeding and early PM-ASI which can cause stunting.

Acknowledgments

The authors are very grateful for all the dedication who have helped complete this article, especially to Diponegoro University lecturers who always motivate all students to write scientific articles and scientific development.

Author Contributions

D. A. M., preparation of the original text, results, discussion, methodology, conclusions; A. K., and S. B. M., did analysis, proofreading, reviewing and editing.

Funding

This research was independently funded by researchers.

Conflicts of Interest

The authors declare no conflict of interest.

References

- Amalia, R., & Windari, A. (2023). *Development of the 10-Hour Breastfeeding Training Module for Lay Personal (Dasa Wisma) as A Companion for Increasing Successful Exclusive Breastfeeding*. 9(11), 9660–9666. <https://doi.org/10.29303/jppipa.v9i11.5640>
- Amalo, H. W., & Davidz, I. (2023). *Factors Associated with the Incidence of Stunting in Toddlers Aged 24 - 59 Months in the Working Area of the Oebobo Health Center, Kupang City*. 9(8), 6682–6687. <https://doi.org/10.29303/jppipa.v9i8.4118>
- Danso, F., Sc, M., Afranie, M., & Appiah, B. P. H. (2023). *Tag edFi ur Tag edEn Tag edFi ur Tag edEn Review article T revalence and associated factors in fl uencing stunting and wasting ag edH1 P among children of ages 1 to 5 years in Nkwanta South Municipality .* 110. <https://doi.org/10.1016/j.nut.2023.111996>
- Darsene, H., Geleto, A., Gebeyehu, A., & Meseret, S. (2017). *Magnitude and predictors of undernutrition among children aged six to fifty nine months in Ethiopia : a cross sectional study*. 1–11. <https://doi.org/10.1186/s13690-017-0198-4>
- Darus, A. R. (2023). *BKKBN Counseling Method for Pregnant Women in Preventing Babies with Stunting*. 9(6), 4310–4314. <https://doi.org/10.29303/jppipa.v9i6.3942>
- Degarege, D., Degarege, A., & Anmut, A. (2015). *Undernutrition and associated risk factors among school age children in Addis Ababa, Ethiopia*. 1–9. <https://doi.org/10.1186/s12889-015-1714-5>
- Fall, C. H. D., Sachdev, H. S., Osmond, C., Restrepo-mendez, M. C., Victora, C., Martorell, R., & Stein, A. D. (2015). *Association between maternal age at childbirth and child and adult outcomes in the off spring : a prospective study in fi ve low-income and middle-income countries (COHORTS collaboration)*. *The Lancet Global Health*, 3(7), e366–e377. [https://doi.org/10.1016/S2214-109X\(15\)00038-8](https://doi.org/10.1016/S2214-109X(15)00038-8)
- Faye, C. M., Fonn, S., & Levin, J. (2019). *Factors associated with recovery from stunting among under-five children in two Nairobi informal settlements*. *PloS One*, 14(4), e0215488. <https://doi.org/10.1371/journal.pone.0215488>
- Fitri, D. I., Chundrayetti, E., & Semiarty, R. (2014). *Artikel Penelitian Hubungan Pemberian ASI dengan Tumbuh Kembang Bayi Umur 6 Bulan di Puskesmas Nanggalo*. 3(2), 136–140. <https://doi.org/https://doi.org/10.25077/jka.v3i>

- 2.51
- Gayawan, E., & Augustine, O. (2023). Spatio-temporal mapping of stunting and wasting in Nigerian children: A bivariate mixture modeling. *Spatial Statistics*, 58, 100785. <https://doi.org/10.1016/j.spasta.2023.100785>
- Ginting, L. M. B., & Besral. (2020). Pemberian Asi Eksklusif Dapat Menurunkan Risiko Obesitas pada Anak Balita. 1(1), 54–59. <https://doi.org/10.15294/jppkmi.v1i1.41421>
- Ginting, R., Girsang, E., Sinaga, M., & Manalu, P. (2024). Barriers to Stunting Intervention at a Community Health Center: A Qualitative Study. 9(10), 8185–8191. <https://doi.org/10.29303/jppipa.v9i10.4656>
- Hijrawati, Usman, A. N., Syarif, S., Hadju, V., As'ad, S., & Baso, Y. S. (2021). Use of technology for monitoring the development of nutritional status 1000 hpk in stunting prevention in Indonesia. *Gaceta Sanitaria*, 35, S231–S234. <https://doi.org/10.1016/j.gaceta.2021.10.028>
- Ireland, S., Belton, S., McGrath, A., Saggars, S., & Narjic, C. W. (2015). Paperbark and pinard: A historical account of maternity care in one remote Australian Aboriginal town. *Women and Birth*, 28(4), 293–302. <https://doi.org/https://doi.org/10.1016/j.wombi.2015.06.002>
- Jama, N. A., Wilford, A., Haskins, L., Coutsoudis, A., Spies, L., & Horwood, C. (2018). Autonomy and infant feeding decision-making among teenage mothers in a rural and urban setting in KwaZulu-Natal, South Africa. *BMC Pregnancy and Childbirth*, 18(1), 52. <https://doi.org/10.1186/s12884-018-1675-7>
- Kanhadilok, S., & McGrath, J. M. (2015). An Integrative Review of Factors Influencing Breastfeeding in Adolescent Mothers. *The Journal of Perinatal Education*, 24(2), 119–127. <https://doi.org/10.1891/1946-6560.24.2.119>
- Mistry, S. K., Hossain, M. B., & Arora, A. (2019). Maternal nutrition counselling is associated with reduced stunting prevalence and improved feeding practices in early childhood: A post-program comparison study. *Nutrition Journal*, 18(1). <https://doi.org/10.1186/s12937-019-0473-z>
- Nguyen, P. H., Scott, S., Neupane, S., Tran, L. M., & Menon, P. (2019). Social, biological, and programmatic factors linking adolescent pregnancy and early childhood undernutrition: a path analysis of India's 2016 National Family and Health Survey. *The Lancet Child & Adolescent Health*, 3(7), 463–473. [https://doi.org/https://doi.org/10.1016/S2352-4642\(19\)30110-5](https://doi.org/https://doi.org/10.1016/S2352-4642(19)30110-5)
- Nhampoca, J. M., & Maritz, J. (2022). Early marriage and adolescent pregnancy in Mozambique. *African Journal of Reproductive Health*, 26(3), 114–123. <https://doi.org/10.29063/ajrh2022/v26i3.13>
- Parellangi, A., Syukur, N. A., & Info, A. (2023). Hubungan asieksklusif, Mp-Asi, Dan pendapatan keluarga dengan kejadian stunting di wilayah kerjapuskemassekatakabujitahun2023. 01(04), 608–617. <https://doi.org/https://doi.org/10.55681/aohj.v1i4.225>
- Pratama, M. R. (2021). Hubungan Pemberian Asi Eksklusif Dengan Stunting Di Puskesmas Hinai Kiri, Kecamatan Secanggang, Kabupaten Langkat The Relation Between Exclusive Breastfeeding With Stunting In The Hinai Kiri Community Health Center, Secanggang District, Langkat Regenc. 1v(I), 17–25. <https://doi.org/https://doi.org/10.30743/stm.v4i1.65>
- Priatmadani, Anjarweni, H. U., Putri, S. M., Pratama, A. S., Palupi, R., & Budiasih. (2021). Determinan Prevalensi Balita Stunting di Indonesia Tahun 2021 Pendekatan Model Spasial. 653–662. <https://doi.org/https://doi.org/10.34123/semnasoffstat.v2023i1.1753>
- Rahayu, I., Musthofa, S. B., & Kartini, A. (2023). Evaluation of the Stunting Program at the Margototo Health Center, Lampung East District. *Jurnal Penelitian Pendidikan IPA*, 9(7), 5788–5797. <https://doi.org/10.29303/jppipa.v9i7.4084>
- Region, W., Forh, G., Apprey, C., Ama, N., & Agyapong, F. (2022). Heliyon Nutritional knowledge and practices of mothers / caregivers and its impact on the nutritional status of children 6 - 59 months in Sefwi Wiawso. *Heliyon*, 8(September), e12330. <https://doi.org/10.1016/j.heliyon.2022.e12330>
- Rosalina, L., Yustanta, B. F., Wardani, N. W., Mahendika, D., Indah, P., Sari, A., & Djafar, T. (2023). The Relationship Between Parenting and Nutrition-Aware Family Behavior with The Incidence of Stunting in Toddlers at Klaten Regency Central Java Province. 9(8), 6213–6218. <https://doi.org/10.29303/jppipa.v9i8.4194>
- Ruaida, N. (2018). GLOBAL HEALTH SCIENCE, Volume 3 No . 2, Juni 2018 ISSN 2503-5088 (P) 2622-1055 (E) GLOBAL HEALTH SCIENCE ---- <Http://Jurnal.Csdforum.Com/Index.Php/Ghs> GLOBAL HEALTH SCIENCE, Volume 3 No . 2, Juni 2018 GLOBAL HEALTH SCIENCE ---- [Http://Jurnal.Csd.3\(2\),](Http://Jurnal.Csd.3(2),) 139–151. <https://doi.org/10.33846/ghs.v3i2.245>
- Santoso, H., Estuti, W., Anwar, M. C., Sulistiyono, P., & Rahayu, D. (2023). Laju insiden gagal ASI eksklusif di masyarakat nelayan pada masa pandemi Covid-19 The incidence rate of exclusive breastfeeding failure in the community fishing during the Covid-19 pandemic

- Abstrak Pendahuluan.* 8(1), 1–9.
<https://doi.org/10.30867/action.v8i1.595>
- Sirajuddin, Asbar, R., Nursali, & Tamrin, A. (2020). *Breastfeeding practices can potential to prevent stunting for poor family.* *Journal of Education and Social Science*, 8(1), 1–9. <https://doi.org/10.1016/j.enfcli.2020.02.007>
- Sitompul, E. S., Simbolon, J. L., & Sitompul, E. S. (2023). *The Effect of Hypnobreastfeeding on Milk Production in Stunting Prevention Efforts in North Tapanuli District.* *Journal of Education and Social Science*, 9(10), 7958–7962. <https://doi.org/10.29303/jppipa.v9i10.5311>
- Surani, E., & Susilowati, E. (2020). The Relationship Between Fulfilment of Basic Needs with the Incidence of Stunting In Toddlers. *Jurnal Ners*, 15(1), 26–30. <https://doi.org/10.20473/jn.v15i1.17286>
- Syakur, R., Musaidah, M., & Handayani, N. (2023). *Risk Factors for Stunting in Toddlers in the Public Health Center Working Area Embo Jeneponto , South Sulawesi.* *Journal of Education and Social Science*, 9(9), 7685–7690. <https://doi.org/10.29303/jppipa.v9i9.5266>
- Ummah, A. K., & Mediani, H. S. (2023). *Proximal Factors on Stunting Incidence in Toddlers in Indonesia and Developing Countries : Scoping Review.* *Journal of Education and Social Science*, 9(7), 219–225. <https://doi.org/10.29303/jppipa.v9i7.3984>
- Vonny Khresna Dewi, Tut Barkinah, R. K. (2023). *Upaya Meningkatkan Cakupan Pemberian Asi Eksklusif Melalui Pelatihan Dan Penyegaran Pada Ibu Hamil Trimester Iii Di Wilayah Kerja Puskesmas Kabupaten Banjar.* *Journal of Education and Social Science*, 3(6), 1257–1266. <https://doi.org/https://doi.org/10.53625/jabdi.v3i6.6778>
- Wemakor, A., Garti, H., Azongo, T., Garti, H., & Atosona, A. (2018). Young maternal age is a risk factor for child undernutrition in Tamale Metropolis, Ghana. *BMC Research Notes*, 11(1), 877. <https://doi.org/10.1186/s13104-018-3980-7>
- Yahya, M., & Hanum, U. (2023). *The Effectiveness of Using the Anthropometric Stunting Meter in Children Aged 24-59 Months at the Lageun Health Center , Aceh Jaya District.* *Journal of Education and Social Science*, 9(9), 6952–6956. <https://doi.org/10.29303/jppipa.v9i9.5015>
- Zaragoza-Cortes, J., Trejo-Osti, L. E., Ocampo-Torres, M., Maldonado-Vargas, L., & Ortiz-Gress, A. A. (2018). Poor breastfeeding, complementary feeding and dietary diversity in children and their relationship with stunting in rural communities; [Pobre lactancia materna, alimentación complementaria y diversidad de la dieta, y su relación con la baja talla en comun. *Nutricion Hospitalaria*, 35(2), 271 – 278. <https://doi.org/10.20960/nh.1352>