

EXCLUSIVE BREASTFEEDING REDUCES THE INCIDENCE OF STUNTING IN TODDLERS

Nurul Hayati¹, Sri Wahyuningsih^{2*}, Musviro³, Laili Nur Azizah⁴, Mazidatur Rizky Amalia⁵

^{1, 2, 3, 4, 5} Fakultas Keperawatan, Universitas Jember, Jawa Timur, Indonesia

¹nurulhyt@unej.ac.id, ^{2*}sriwahyuningsih@unej.ac.id (CA), ³musviro@unej.ac.id, ⁴lailinurazizah3@unej.ac.id, ⁵mazidaturr12@gmail.com

Abstract

Under-five stunting is a chronic nutritional problem that arises due to various factors, such as maternal nutritional conditions during pregnancy, lack of nutritional intake for infants, and socio-economic conditions. Stunting has a relationship with neurocognitive disorders and is at risk of developing PTM or non-communicable diseases in the future. This problem must be addressed immediately so children need to reach optimal heights. Exclusive breastfeeding can be used as an intervention to reduce the risk of stunting because breast milk contains antibodies, and the calcium content in breast milk has a high bioavailability so that it can be absorbed optimally, especially in the function of bone formation. This study aimed to identify exclusive breastfeeding for the incidence of stunting. The method used is a literature review. Sources of literature search used three electronic databases: Google Scholar, Garuda Ristekbrin, and Elsevier. The literature review results found that all articles showed a relationship between exclusive breastfeeding and the incidence of stunting. The lower the level of exclusive breastfeeding, the higher the incidence of stunting in toddlers. Suggestions for further research are the need to increase the mechanism of exclusive breastfeeding, the frequency of exclusive breastfeeding, and the timing of exclusive breastfeeding. In addition, researchers also need to add other variables that can be used as interventions and prevention efforts against stunting, such as the provision of complementary feeding and complementary foods (PMT).

Keyword: exclusive breastfeeding, incidence rate, stunting

1. Introduction

Stunting is one of the nutritional disorders in children that still occurs in Indonesia today. Stunting or what is known as short toddler is a problem of chronic malnutrition or failure in the growth and development of children. Stunting has a relationship with neuro-cognitive disorders and is at risk for having NCDs or non-communicable diseases in the future, so this is a problem that must be taken immediately preventive action [1]. so that the child fails to achieve optimal height. The problem of stunting has a long impact related to the quality of Human Resources (HR) who experience degenerative disease disorders in the future; medium-term impacts related to intellect and cognitive abilities;

and serious short-term impacts, namely morbidity and mortality in infants and toddlers [2].

According to WHO in 2020, the prevalence of stunting under five in the world will reach 22%. Malnutrition that occurs in Asia and Africa is the cause of half the mortality rate in children under five [3]. Meanwhile, according to the 2021 SSGI, the prevalence of stunting under five in Indonesia in 2019 reached 27.7% and decreased to 24.4% in 2021. However, this figure is still relatively high from the WHO standard, which is 20%.

Based on data from the 2018 Riskesdas survey, the prevalence of stunting under five that occurred was 34%. This condition is higher than the Strategic Plan of the Provincial Health Office and the RPJMN. When compared with the results

of the 2013 Riskesdas survey, the prevalence of stunting under five in Lumajang Regency has dropped significantly to 7.3% [4]. However, in 2021, SSGBI stated that the prevalence of stunting in Lumajang Regency managed to decrease to 30.1%.

Stunting is a condition of failure to grow and develop in toddlers caused by poor nutrition. Malnutrition in stunting can occur during pregnancy and early after delivery, but the signs and symptoms of stunting are only seen after the baby is 2 years old. According to a statement from the Ministry of Health (Kemenkes), stunting is a toddler with a Z value of less than -2SD/standard deviation (stunted) and less than -3SD (very stunted) [5].

Stunting conditions need special attention because they can be an inhibiting factor in children's physical and mental development. Stunting is associated with stunted growth of motor and mental abilities, decreased intellectual abilities, productivity, and increased risk of degenerative diseases. In addition, stunting is also able to increase the risk of morbidity and mortality, as well as being more susceptible to infectious diseases. This causes a decrease in the quality of learning in schools, resulting in educational and even economic losses in the long term for Indonesia [6, 7].

According to a statement from Unicef, one of the causes of stunting is the unbalanced nutritional intake received by toddlers. Exclusive breastfeeding that is not given within 6 months is a factor in unbalanced nutritional intake [8]. According to Decree No. 33 of 2012, exclusive breastfeeding is breast milk that is given to babies from the beginning of birth until the first 6 months without providing additional food and drinks or other substitutes (excluding drugs, vitamins and minerals) [9]. Mother's Milk (ASI) is milk produced by mothers and contains nutrients needed by babies to meet their needs and plays an important role in infant growth and development [7]. Based on research conducted by Ni'mah and Nadhiroh (2015), children have a 4.6 times higher risk of stunting if they do not receive exclusive breastfeeding because breast milk contains nutrients needed for children's growth and development. Therefore, children who do not get exclusive breastfeeding tend to be malnourished [10].

According to WHO and UNICEF, exclusive breastfeeding has breastfeeding rules including early initiation of breastfeeding (IMD) after delivery within the first hour, then exclusive breastfeeding is given for the first six months until the child is two years old, then can be given MPASI starting in the sixth month. [11, 12]. Breast milk contains antibodies and high calcium. Breast milk also has high bioavailability so that it can be optimally absorbed, especially in the function of bone formation [13, 14]. The theory underlies that stunting can be prevented through exclusive breastfeeding. Therefore, the authors are interested in the discussion as a Literature Review entitled Exclusive Breastfeeding Against Stunting Incidence.

2. Methods

The design of this research is a literature review. The type of data used is secondary data, namely by examining several selected journals and based on inclusion and exclusion criteria. Sources of data obtained in this literature review study were obtained from several recommended journal search sites such as Google Scholar, Garuda Ristekbrin, and Elsevier in the period October 2021-February 2022. The keywords used in this literature review were stunting, exclusive breastfeeding, and Event Number. The journal analysis method used uses the PICOS strategy with the following inclusion criteria:

- a. Population/problem is the population of the part of the problem that will be analyzed and discussed according to a predetermined theme. In this literature review, the problem analyzed is toddlers who are stunted.
- b. Intervention is a specific action or management of a problem either individually or individually and its description is in accordance with the themes that have been determined in the literature review. In this literature review, exclusive breastfeeding was chosen as an intervention to solve a predetermined problem.
- c. Comparison is an intervention or other comparison management. In this literature review, there is a comparison intervention, namely comparing the case group and the control group to determine the proportion of



events based on a history of whether or not there is a relationship between exclusive breastfeeding and the incidence of stunting in children under five.

- d. Outcomes are the results obtained from previous research studies that are in accordance with the themes that have been set in the literature review. In this literature review, the selected articles show that exclusive breastfeeding can reduce the incidence of stunting.
- e. Study Design is the research design used. The study design used in this research consists of Cross Sectional.

Journal search process through recommended sites: Based on the results of a literature search through publications in three databases and using keywords that have been adjusted to MeSH, namely stunting, exclusive breastfeeding, and incidence rates. A total of 508 journals were found, detailing Google Scholar (384 journals), Garuda Ristekbrin (89 journals), and Elsevier (35 journals). The journal search results were adjusted based on the inclusion criteria and found 166 selected journals, while 342 journals that did not meet the inclusion criteria were excluded or not used. Of the 166 selected journals, re-screening was carried out based on the identification of the suitability of titles and abstracts that were not full text, so that 20 selected journals were found and 146 journals were not used. Then screened again based on full text journals and produced 10 selected journals for literature review.

3. Results

Table 1. Analysis of several articles on frequency of exclusive breastfeeding

No	Author	Frequency of Exclusive Breastfeeding	
		Exclusive Breastfeeding	Non Exclusive Breastfeeding
1.	(Latifah dkk., 2020)	42	6

2.	(Agus dkk., 2020)	19	39
3.	(Sinambela dkk., 2019)	10	37
4.	(Langi dkk., 2019)	16	25
5.	(Chyntaka dan Putri, 2020)	39	53
6.	(Mikawati dkk., 2019)	11	38
7.	(Trisnawati dkk., 2022)	39	53
8.	(Rilyani dkk., 2021)	34	48
9.	(Louis dkk., 2018)	11	19
10.	(Pangalila dkk., 2018)	30	60

Based on table 1 shows that the frequency of exclusive breastfeeding with the highest number of respondents is 42 respondents in the study [15] and the frequency of exclusive breastfeeding with the lowest number of respondents is 10 respondents in the study [16].

Table 2. Analysis of articles on frequency of stunting incidence

No.	Author	Frequency of Stunting Incidents	
		Stunting	Non Stunting
1.	(Latifah dkk., 2020)	6	42
2.	(Agus dkk., 2020)	58	Unknown
3.	(Sinambela dkk., 2019)	34	13
4.	(Langi dkk., 2019)	22	19



5.	(Chyntaka dan Putri, 2020)	44	48
6.	(Mikawati dkk., 2019)	49	Unknown
7.	(Trisnawati dkk., 2022)	37	55
8.	(Rilyani dkk., 2021)	52	30
9.	(Louis dkk., 2018)	15	15
10.	(Pangalila dkk., 2018)	21	69

Based on table 2, it shows that the highest frequency of stunting is found in the study [17] with 58 respondents and the lowest frequency of stunting is found in the study [15].

Table 3. Analysis of articles on the statistical results

No.	Article	Statistical Analysis Results	p-Value
1.	(Latifah dkk., 2020)	<i>Chi-square</i>	0,000
2.	(Agus dkk., 2020)	<i>Chi-square</i>	0,003
3.	(Sinambela dkk, 2019)	<i>Fisher Exact</i>	0,000
4.	(Langi dkk., 2019)	<i>Chi-square</i>	0,002
5.	(Chyntaka dan Putri, 2020)	<i>Chi-square</i>	0,001
6.	(Mikawati dkk., 2019)	<i>Fisher Exact</i>	0,009
7.	(Trisnawati dkk., 2022)	<i>Chi-square</i>	0,001
8.	(Rilyani dkk., 2021)	<i>Chi-square</i>	0,001
9.	(Louis dkk., 2018)	<i>Chi-square</i>	0,002
10.	(Pangalila dkk., 2018)	<i>Chi-square</i>	0,017

Based on table 3, it shows that there is a relationship between exclusive breastfeeding and the incidence of stunting with p-value <0.005.

There are 8 journals using the chi-square test and 2 other journals using the Fisher exact test.

4. Discussion

Based on table 1, out of 10 articles, 260 respondents showed that the frequency of exclusive breastfeeding was given, while the frequency of non-exclusive breastfeeding was 369 respondents. From these facts, it shows that more respondents are not exclusively breastfed. However, in 1 article in the study [15] it was found that 42 respondents with a percentage of 87.5% received exclusive breastfeeding and 6 respondents with a percentage of 12.5% did not receive exclusive breastfeeding.

Based on table 2, there were 10 articles with the frequency of stunting occurrences that occurred as many as 338 respondents, while the number of non-stunted toddlers was 291 respondents. This shows that the incidence of stunting is still high as stated in the study [17] which is 58 respondents with a percentage of 100%.

Based on table 3, from all journals it shows that there is a significant relationship between exclusive breastfeeding and the incidence of stunting. 8 articles using the chi-square statistical analysis test, where p-value is 0.000, it can be concluded that there is a relationship between exclusive breastfeeding and the incidence of stunting in children under five in the study [15]. Similarly, research by Chyntaka and Putri (2020) and Trisnawati et al., (2022) which states that the results of the statistical analysis of the chi square test obtained a p-value of 0.0001 [18,19]. Therefore, it can be concluded that there is a relationship between breastfeeding and the incidence of stunting in toddlers 24-60 months. In studies of Sinambela (2019) and Mikawati. et al., (2019) which used the Fisher exact test, the p-values were 0.000 and 0.009 [16, 20]. These results indicate that there is a significant relationship between exclusive breastfeeding and the incidence of stunting.

According to research Sinambela (2019), some mothers do not give exclusive breastfeeding because mothers do not know the importance of exclusive breastfeeding for their children's growth and some mothers are busy working so they cannot give exclusive breastfeeding directly

to their children [16]. This is in line with research Agus et al., (2020), that mother's knowledge, education and occupation affect exclusive breastfeeding for infants [17]. Mothers who are at a mature age and have higher education automatically have high knowledge and a good mindset in receiving information to improve the nutritional status of their children. Exclusive breastfeeding is the best food for babies to be given, because breast milk contains all the nutrients that babies need as described in the study Latifah et al., (2020). The Indonesian Pediatrician Association (IDAI) explained that exclusive breastfeeding for six months is beneficial for achieving optimal growth and development. After six months of age, infants should be supplemented with complementary foods and continue breastfeeding until the child is 24 months old. Breastfeeding is carried out until the child is 2 years old [21, 22].

In the study of Agus et al., (2020) there were 2 causes that caused the stunting rate to be high [17]. The indirect causes of stunting are the availability of food in the area and the nutritional status of the mother during pregnancy. Meanwhile, the direct cause of stunting is the presence or absence of accompanying infectious diseases such as intestinal worms, ARI, diarrhea and other infections which are closely related to the quality status of basic health services, especially immunization, environmental quality and behavior. In addition, factors that cause stunting include inadequate nutrition, socio-economic factors or family knowledge about the importance of adequate nutritional intake in children. If the problem is not resolved properly and is allowed to drag on, it will cause children under five to experience stunting (short) as described in Sinambela (2019) [16].

The results of research in Langi et al., (2019) show that the achievement of exclusive breastfeeding in Indonesia has not exceeded the expected national target of 80% [23]. Exclusive breastfeeding according to Government Regulation of the Republic of Indonesia Number 33 of 2012 concerning Exclusive Breastfeeding is the provision of Mother's Milk (ASI) without adding and or replacing with other food or drinks given to babies since they were just born for 6 months [24]. According to Almatser (2009), the risk of stunting can be reduced, one way is by

exclusive breastfeeding, because breast milk has high vertical and calcium content and has high bioavailability so that it can be absorbed optimally, especially in bone formation [15, 25]. In addition, in research Louis et al., (2018), it is stated that breast milk affects the function of the tract in the gestivus and kidneys in producing maximum physical growth [26]. Physical growth, especially height, comes from the calcium content in breast milk which is more effective for absorption compared to formula milk or others and this is an effort to avoid the risk of stunting [25].

5. Conclusion

Exclusive breastfeeding is very important for toddlers to prevent stunting. Exclusive breastfeeding is influenced by knowledge, education, occupation, and availability of mother's time. The content in breast milk such as lactose which is able to absorb calcium must be given exclusively to help the baby's development period. Men are more susceptible to stunting than women due to the greater difference in energy intake requirements in men. If these energy needs are not met properly, growth conditions will be disrupted and can lead to stunting. However, women are also vulnerable to risk of stunting if the parenting pattern of parents in providing nutrition is not good. Exclusive breastfeeding should be given to toddlers at the age of 0-2 years to support the fulfillment of infant nutrition and minimize the incidence of stunting in toddlers. In addition, the high incidence of stunting is caused by several factors including nutrition during pregnancy, the presence of infectious diseases, environmental conditions or sanitation, lack of fulfillment of nutrition, socioeconomic, and family knowledge about nutrition fulfillment. These factors are the cause of the high stunting rate. In addition, it is necessary to carry out early detection of stunting because stunting can only be seen when children enter the age of 2 years.

References

- [1] Subdistrict, C. 2019. Determinan kejadian stunting pada balita di desa wukirsari , kecamatan. 03(01):53–58.
- [2] Nuradhiani, A. 2020. Pemberian asi eksklusif dan makanan pendamping asi



- (mp-asi) pada kejadian stunting di negara berkembang exclusive breastfeeding and complementary feeding for stunting in developing countries. *J. Gizi Kerja Dan Produktivitas*. 2020(1):23–28.
- [3] Apriluana, G. dan S. Fikawati. 2018. Analisis faktor-faktor risiko terhadap kejadian stunting pada balita (0-59 bulan) di negara berkembang dan asia tenggara. *Media Penelitian Dan Pengembangan Kesehatan*. 28(4):247–256.
- [4] Dinas Kesehatan Kabupaten Klungkung. 2019. Rencana strategis dinas kesehatan kabupaten klungkung tahun 2018-2023. 3 Februari 2021. (13):1–19.
- [5] Sabilu, Y., N. Elyas Sueratman, J. Kesehatan Masyarakat, U. Halu Oleo, J. Kesehatan Masyarakat dan Gizi, dan I. Teknologi Kesehatan Avicenna. 2021. Peran pendidikan gizi dalam pencegahan stunting. *Jurnal Ilmiah Kesehatan*. 14(2):151–158.
- [6] Sr, A. dan S. A. Sampe. 2020. Hubungan pemberian asi eksklusif dengan kejadian stunting pada balita relationship between exclusive breastfeeding and stunting in toddlers. *Juni*. 11(1):448–455.
- [7] Latifah, A. M., L. E. Purwanti, dan F. I. Sukamto. 2020. Peraturan pemerintah nomor 33 tahun 2012 menyatakan air susu ibu (asi) eksklusif adalah asi yang di berikan menambahkan atau dalam jangka panjang stunting mengakibatkan penurunan dapat kemampuan kognitif dan prestasi belajar , menurunnya dan sehingga mud.4(1):1-12.
<http://jurnal.umt.ac.id/index.php/jkft/article>
- [8] Sholihah, A. N., P. Sirait, P. Studi, K. Program, S. Terapan, dan F. I. Kesehatan. 2019. Mencegah terjadinya stunting dengan. *Infokes*. 9(1):32–36.
- [9] Damayanti, R. A., L. Muniroh, dan F. Farapti. 2017. Perbedaan tingkat kecukupan zat gizi dan riwayat pemberian asi eksklusif pada balita stunting dan non stunting. *Media Gizi Indonesia*. 11(1):61-69.
- [10] M., E. Lusiana, dan . H. 2019. The relationship between exclusive breastfeeding (asi) and mother heightwith incident rates stunting among child age 2-5 years in barombong public health center, gowa, sulawesi selatan. *KnE Life Sciences*. 2019:558–567.
- [11] Agus, D., V. Putri, dan T. S. Lake. 2020. Pengaruh pemberian asi eksklusif dengan kejadian stunting di desa haekto kabupaten timor tengah utara provinsi nusa tenggara timur. (3):67–71.
- [12] Anak, P., B. Bulan, R. E. Trisnawati, J. P. Jangu, dan D. O. Laput. 2022. PEMBERIAN asi eksklusif dengan kejadian stunting. 8(1):157–162.
- [13] Ariani, M. 2020. Determinan penyebab kejadian stunting pada balita: tinjauan literatur. *Dinamika Kesehatan: Jurnal Kebidanan Dan Keperawatan*. 11(1):172–186.
- [14] Candra, A. 2020. Patofisiologi stunting. *JNH (Journal of Nutrition and Health)*. 8(2):27–31.
- [15] Chyntaka, M. dan N. Y. Putri. 2020. Riwayat pemberian asi eksklusif dengan kejadian stunting pada balita usia 24-60 bulan. *JIDAN (Jurnal Ilmiah Bidan)*. 7(1):8–13.
- [16] Kemenkes RI. 2018. Buletin stunting. Kementerian Kesehatan RI. 301(5):1163–1178.
- [17] Kementrian Kesehatan RI. 2018. Cegah stunting, itu penting. Pusat Data Dan Informasi, Kementerian Kesehatan RI. 1–27.
- [18] Louis, S. L., A. N. Mirania, dan E. Yuniarti. 2018. The relationship between exclusive breastfeeding with stunting on toddlers children. *Maternal & Neonatal Health Journal*. 7–11.
- [19] Ningsih, W. 2020. Hubungan pengetahuan dan sikap ibu pada pemberian asi eksklusif pada bayi umur 6-12 bulan. *Journal of Chemical Information and Modelin*. 53(9):1689–1699.
- [20] Pangalila, Y. V, M. L. Punuh, dan N. H. Kapantow. 2018. Hubungan antara riwayat pemberian asi eksklusif dengan stunting pada anak usia 6-24 bulan di wilayah kerja puskesmas koya kabupaten minahasa. *Kesmas*. 7(3):1–7.
- [21] Puskesmas, D. I., K. Minahasa, G. K. L. Langi, I. M. Djendra, R. B. Purba, dan S.



- P. Ryan. 2019. Pengetahuan ibu dan pemberian asi eksklusif dengan kejadian stunting pada balita 2-5 tahun. 11(1):17–22.
- [22] Rachman, R. Y., S. A. Nanda, N. P. A. Larassasti, M. Rachsanzeni, dan R. Amalia. 2021. Hubungan pendidikan orang tua terhadap risiko stunting pada balita: a systematic review. Jurnal Kesehatan Tambusai. 2(2):61–70.
- [23] RI, S. W. P. 2017. 100 kabupaten prioritas untuk intervensi anak kerdil. Sekretariat Wakil Presiden RI.
- [24] Rilyani, R., R. Wandini, W. D. Lestari, P. Studi, I. Keperawatan, U. Malahayati, dan B. Lampung. 2021. Pendahuluan. 10:1–6.
- [25] Selatan, K. 2019. Data hasil penelitian dianalisis bivariat menggunakan uji. 10(1).

