

RESEARCH STUDY

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The Correlation between Stunting, Maternal Knowledge, and Nutritional Care in Aceh, Indonesia

Hubungan Stunting dengan Pengetahuan Ibu dan Asuhan Gizi di Aceh, Indonesia

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Available online at:[https://e-](https://e-journal.unair.ac.id/AMNT)[journal.unair.ac.id/AMNT](https://e-journal.unair.ac.id/AMNT)**Keywords:**

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ABSTRACT

Background: Aceh province is one of the Indonesian provinces with the highest prevalence of stunting. Many factors contribute to this situation, including maternal knowledge. Although many studies have been conducted in Indonesia, literature exploring the correlation between stunting, mothers' knowledge of stunting, and nutritional care in the Aceh province is limited.

Objectives: This study aimed to examine the correlation between mothers' knowledge of stunting, nutritional care, and the prevalence of stunting.

Methods: This study utilized a quantitative paradigm and a cross-sectional design. The participants were 90 mothers selected by purposive sampling technique at Neuheun village, a village with the highest stunting prevalence in Aceh Besar Regency. The data was collected using a questionnaire measuring the mothers' knowledge of stunting and nutrition care. In addition, secondary data was collected based on the anthropometric measurements of the children from the local community health center.

Results: The findings suggest a significant correlation between maternal knowledge and stunting prevalence (p -value=0.003), as well as a significant correlation between nutrition care knowledge and stunting prevalence (p -value<0.001).

Conclusions: This study concludes a significant correlation between mothers' knowledge, nutritional care, and the prevalence of stunting in children at Neuheun Village, Aceh Besar Regency. Such findings underscore the imperative for concerted efforts among stakeholders to enhance maternal understanding of stunting and promote optimal nutritional care practices.

INTRODUCTION

The prevalence of stunting in Indonesia remains concerning (24.4%)¹. After many interventions, the number has decreased slowly. In Aceh, the stunting rate among children under five in 2021 was 33.2%, the third highest in Indonesia after East Nusa Tenggara and West Sulawesi². The impacts of stunting may produce short and long-term consequences, such as physical growth failure, low productivity in adulthood, and increased risk of degenerative diseases³. Eventually, Indonesia may suffer from a lack of quality generation to grow its future economy⁴.

Researchers have been studying the underlying causes of stunting in children, exploring multiple factors that might increase the risk of stunting. These factors encompass duration of exclusive breastfeeding, nutritional care, complementary feeding, dissatisfaction toward healthcare facilities⁵, socio-economic factors,

incomplete immunization, infectious diseases prevalence, the environmental situations, the level of maternal education, and maternal knowledge about nutrition care and stunting⁶.

Adequate maternal knowledge about nutrition can positively influence the dietary patterns of young children, thus potentially averting stunting and enhancing their nutritional status⁷. Furthermore, maternal education level also plays a crucial role in shaping their understanding of appropriate nutrition care. Studies have shown that higher levels of maternal education are associated with broader knowledge, which may influence mothers' attitudes toward providing appropriate nutrition care⁸. However, scant literature explores such phenomena in Aceh province.

Aceh has been struggling to improve its stunting rate, compounded by the lingering effects of a 29-year-long armed conflict and the devastating impact of the

2004 tsunami on socio-economic conditions. Despite substantial efforts such as the extensive build-back project, Aceh's economic growth has not significantly improved compared to its pre-2004 tsunami status⁹. This sluggish economic growth may contribute to the failures of numerous programs to reduce stunting. In 2013, the stunting prevalence reached 39%¹⁰, which decreased marginally to 37.9% five years later in 2018. The latest data from 2022 reveals that Aceh remains in the top five provinces in Indonesia for stunting prevalence, at 33.2%. This figure remains notably higher than the national prevalence of stunting, which decreased significantly to 24.4% in the same year¹¹.

In response to the insignificant decrease in stunting statistics, the government of Aceh has launched several programs to mitigate the prevalence of stunting in the region. One such program is "GISA" comprising ten sub-programs targeting various aspects, including distribution of iron tablets, anemia screening, antenatal care, immunization, complementary feeding for malnourished mothers and toddlers, growth and development monitoring, exclusive breastfeeding campaigns, improving management of malnourished toddlers, and increasing immunization coverage¹². Some of these sub-programs focus on increasing maternal knowledge of stunting. However, scant literature evaluates basic information, such as factors that are correlated with stunting in Aceh. Hence, this study investigates the correlation between mothers' knowledge of stunting, nutrition care, and the prevalence of stunted children at Neuheun Village, Aceh Besar District, Aceh, Indonesia.

METHODS

This study utilized a quantitative approach using an analytical observational study with a cross-sectional design aimed to determine the correlation between mothers' knowledge about stunting, nutrition care, and the prevalence of stunting at Neuheun Village, Masjid Raya sub-district, Aceh Besar regency, Aceh Province, Indonesia. Neuheun village was chosen as the context of research because it has the highest prevalence of stunting in Aceh Besar Regency. The ethics board of the Faculty of Medicine, Universitas Syiah Kuala, approved

the study (No. 105/EA/FK/2022).

The data collection was carried out from December 2022 to January 2023. The population studied consisted of mothers with toddlers residing in Neuheun Village. The sampling technique used was purposive sampling, a non-probability sampling technique used to select all mothers with characteristics that the researchers needed. The researchers decided to collect data on mothers during their visits to the integrated health posts (*posyandu*) since most mothers attended the post regularly each month. The inclusion criteria were mothers having toddlers aged two months to five years, and the exclusion criteria were mothers of toddlers with genetic diseases, cerebral palsy, or a history of birth trauma.

Two questionnaires were used in this research. The first measures the participant's knowledge of stunting, and the second measures their knowledge of nutritional care. Each of the questionnaires consisted of ten questions, and each question was graded at 10 points. Both of the questionnaires have been validated. An individual score of less than 50% (0–40 score), 51%–79% (50–70 score), and 80%–100% (80–100 score) were considered having poor, moderate, and good knowledge, respectively.

Bivariate analysis was employed to analyze the relationship between independent and dependent variables. The Independent variable in this research was the mothers' knowledge of stunting and nutritional care, and the dependent variable was the stunting diagnoses of their children. Subsequently, correlation testing of Spearman's rank correlation test was applied. The p-value of <0.05 was considered to be significant.

RESULTS AND DISCUSSIONS

Ninety participants met the inclusion criteria. They all lived in Perumnas Ujung Batee, Tiongkok Housing, Cinta Kasih Housing, and Nurani Housing in Neuheun Village, Aceh, Indonesia. These housings were established after the 2004 tsunami hit the Aceh Province. Data collection was conducted from January 1st to 10th, 2023. Table 1 describes the characteristics of the participants.

Table 1. The characteristics of this study's participants.

The Characteristics	Frequency (n=90)	Percentage (%)
Mothers' age (year)		
17-25	12	13.4
26-35	56	62.2
36-45	22	24.4
Mothers' education		
Primary school	7	7.8
Junior high school	10	11.1
Senior high school	61	67.8
Bachelor degree	12	13.3
Mothers' profession		
Housewife	88	97.8
Working	2	2.2

Table 1 indicates that most participants aged between 26 and 35 (62.2%). Based on educational background, the majority had completed senior high

school (67.8%). Regarding their occupation, almost all of the mothers were housewives (97.8%).

Knowledge

The data show that most mothers with normal toddlers have sufficient (47.5%) and good (46%) knowledge about stunting. Similarly, they have sufficient (47.5%) and good (48.8%) knowledge about nutritional care. On the other hand, the majority of mothers with

stunted toddlers have poor (40%) and sufficient (50%) knowledge about stunting and also poor (50%) and sufficient (50%) knowledge about nutritional care. Table 2 compares the data of knowledge regarding stunting and nutritional care between mothers with stunted children and those with normal children.

Table 2. Frequency distribution of mothers' knowledge about stunting and nutritional care

Level of knowledge	Mothers with stunted children				Mothers with normal children			
	Knowledge about stunting		Knowledge about nutrition care		Knowledge about stunting		Knowledge about nutrition care	
	(n)	(%)	(n)	(%)	(n)	(%)	(n)	(%)
Poor	4	40.0	5	50.0	5	6.3	3	3.7
Sufficient	5	50.0	5	50.0	38	47.5	38	47.5
Good	1	10.0	0	0.0	37	46.2	39	48.8
Total	10	100.0	10	100.0	80	100.0	80	100.0

The Correlation Between Mothers' Knowledge of Stunting and The Stunting Prevalence

The data show that mothers with good knowledge (46.2%) have toddlers who are not stunted, while mothers with poor knowledge (only 6.3%) have toddlers who are not stunted. The Spearman Rank test result indicates a significant correlation between mothers' knowledge about stunting and the prevalence of stunting (p-value=0.003). The correlation coefficient of -0.314 suggests a moderately strong negative correlation

between knowledge of stunting and the prevalence of stunting. A negative correlation coefficient implies an inverse correlation between the two variables. This means that if mothers have good knowledge about stunting, the prevalence of stunting is likely to decrease, and vice versa. If mothers have insufficient knowledge, the likelihood of stunting may increase. The correlation between mothers' knowledge about stunting and the prevalence of stunting in toddlers can be seen in Table 3.

Table 3. The correlation between mothers' knowledge about stunting and the prevalence of stunting

Knowledge about stunting	Prevalence of stunting				r	p-value
	Yes		No			
	(n)	(%)	(n)	(%)		
Poor	4	40.0	5	6.3	0.003	-0.314
Sufficient	5	50.0	38	47.5		
Good	1	10.0	37	46.2		
Total	10	100.0	80	100.0		

The Correlation Between Mothers' Knowledge of Nutritional Care and The Stunting Prevalence

The data indicate that 48.8% of mothers with a good understanding of nutritional care have toddlers within the normal growth range. Conversely, only 3.7% of mothers with poor knowledge have children experiencing stunted growth. The Spearman Rank test reveals a statistically significant correlation between mothers' knowledge of nutritional care and the incidence of stunting (p-value<0.001). With a correlation coefficient of

-0.427, a moderately strong negative correlation exists between mothers' nutritional knowledge and stunting prevalence. This negative correlation coefficient signifies an inverse relationship between the two variables, suggesting that higher maternal nutritional knowledge tends to correspond with lower rates of stunting and vice versa. Notably, deficient maternal knowledge is associated with an increased likelihood of stunting. The correlation between maternal knowledge and stunting prevalence in toddlers is illustrated in Table 4.

Table 4. The correlation between mothers' knowledge of nutrition care and the stunting prevalence

Knowledge about nutritional care	Prevalence of stunting				p-value	r
	Yes		No			
	(n)	(%)	(n)	(%)		
Poor	5	50.0	3	3.7	<0.001	-0.427
Sufficient	5	50.0	38	47.5		
Good	0	0.0	39	48.8		
Total	10	100.0	80	100.0		

Mothers' Knowledge, Age, and Educational Level

The findings regarding the characteristics of participants of this study are consistent with related research investigating the correlation between mothers' knowledge and the prevalence of stunting. Studies

conducted in Tenggara, Kutai Kartanegara¹³ in 2022, Bekasi in 2022¹⁴, Bali¹⁵, and Labuhan Haji, South Aceh¹⁶ reported similar participant demographics. These studies observed participants aged between 26 and 35 years, typically in a highly reproductive phase, with a greater

likelihood of accessing information, better comprehension skills, and a strong interest in seeking knowledge. Conversely, individuals in the later stages of adulthood (36-45 years) may be preoccupied with household and social obligations. This leads to limited time for acquiring new information, including stunting and nutritional care knowledge. Many study participants were also homemakers, affording them more leisure time to enhance their knowledge through health posts and information channels such as healthcare professionals, electronic and print media, and social media^{17,18}.

In addition to the age groups, mothers' educational levels influence their knowledge. In this study, most of the sample had an educational level of senior high school (67.8%). This finding mirrors findings from studies in Medan¹⁹ and Makassar, South Sulawesi²⁰. A person's education level influences the absorption and understanding of information. Thus, a mother's level of education may affect her health literacy, given their pivotal role in shaping toddlers' dietary habits, from food selection and preparation to meal serving²¹. Additionally, having higher education levels may foster a greater receptiveness to information regarding the importance of nutrition in preventing stunting²².

This study found that most mothers had sufficient knowledge about stunting (47.8%) and nutritional care (47.8%). This finding is consistent with the studies conducted by Wardani¹⁶ and Silviana¹⁷, which similarly found that most respondents had sufficient knowledge. Notably, diverse factors such as age, education, occupation, experience, and information source influence a mother's knowledge²³. While most mothers understand the meaning of stunting, they may lack knowledge regarding how to prevent it⁷. Therefore, enhancing maternal knowledge is crucial in reducing the prevalence of stunting.

The Correlation Between Maternal Knowledge and Nutritional Care with The Stunting Prevalence

This study examined two aspects of maternal knowledge: the prevalence of stunting and nutritional care. The findings reveal a significant and strong negative correlation between maternal knowledge of stunting and the prevalence of stunting in young children (p -value=0.003, r =-0.314). In addition, the findings also indicate a significant and negative correlation between maternal knowledge of nutritional care and the prevalence of stunting (p -value<0.001, r =-0,0427). These findings are consistent with studies conducted in Sintang²⁴ and Tapanuli Utara²⁶, which indicate that mothers with good knowledge are less likely to have stunted children. They can provide nutrition for their child's growth and development²³. Another study also concluded a significant correlation between mothers' knowledge and the prevalence of stunting²⁵.

The level of knowledge may influence one's attitude and behavior in various actions. Prevention efforts against stunting are closely related to parents' knowledge about stunting. Good knowledge can raise parents' awareness of the importance of preventing stunting. The prevalence of stunting can also be influenced by parents' attitudes and knowledge, resulting in delayed action when signs of stunting are observed in

infants²⁶.

This study found that 37 mothers (46.2%) had good knowledge about stunting, and their children were not stunted. Maternal knowledge is an essential factor in ensuring the nutritional needs of toddlers are met so that they can grow and develop according to their age. A mother's knowledge determines her attitude toward maintaining health and preventing stunting. With good knowledge, mothers are more aware of the importance of addressing stunting promptly²⁷. Therefore, the lack of knowledge of the mother and poor nutritional care may contribute to stunting.

In addition to knowledge and nutritional care, several other factors may lead to stunting, such as a history of infectious diseases, low birth weight, genetic, economic, socio-cultural, and environmental²⁸. This is consistent with a study in the city of Lubuklinggau in 2022²⁹, which found that children from families with low economic status are at risk of experiencing stunting. Higher economic status enables individuals to choose and afford nutritious and varied foods. In comparison, lower economic status tends to result in purchasing affordable animal and plant-based protein-rich foods that align with their limited financial capacity²⁹. A study in North Minahasa also indicates a correlation between the height of parents and the prevalence of stunting in young children³⁰.

This study found that nearly half of the mothers (48.8%) had good knowledge of nutritional care and normal toddlers. This result highlights the importance of maternal knowledge about nutritional care. Higher knowledge levels may increase health awareness and better health-related behaviors, such as meeting nutritional needs during pregnancy, maintaining household sanitation, and adopting clean and healthy lifestyles³¹.

However, this study found three mothers (3.8%) with poor nutritional care knowledge having normal children. Despite the low proportion, this finding supports previous studies suggesting no correlation between poor knowledge of nutritional care and the prevalence of stunting, such as a study conducted at Bojonegoro²⁸. Besides maternal knowledge of stunting and nutritional care, several other factors influence the prevalence of stunting in toddlers, such as infectious diseases, low birth weight, birth trauma, local cultures, and genetic factors. However, these factors were not measured in this particular study.

This study is subject to limitations. First, the samples were limited to mothers in one village in Aceh Besar Regency, meaning that the result cannot be generalized to represent the whole population of mothers in the district. Second, a simple survey may not accurately depict the exact level of the mothers' knowledge. Third, this study used a cross-sectional design and did not follow the changes in the mothers' knowledge over time. However, the findings may be helpful for future researchers in the field. For future studies, it is recommended to use a bigger sample size, a more accurate tool, or a longitudinal study to obtain more generalizable data.

CONCLUSIONS

The maternal knowledge of stunting and nutritional care in Neuheun Village is considered sufficient. This study reveals a significant correlation between maternal knowledge of stunting and knowledge of nutritional care and the stunting prevalence in children in Neuheun Village, Aceh Besar Regency. These findings call for all stakeholders to improve maternal knowledge of stunting and nutritional care and continuously show their commitment to these efforts to decrease the prevalence.

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CONFLICT OF INTEREST AND FUNDING DISCLOSURE

All authors expressed no conflict of interest in this article. All of the researchers supported this study financially.

AUTHOR CONTRIBUTIONS

MFR: investigation, data curation, administration; HD: conceptualization, analysis, supervision; HH: methodology, resources, supervision; RI: writing—original draft, review, editing.

REFERENCES

1. Aryu, C. *Buku Epidemiologi Stunting*. (Fakultas Kedokteran Universitas Diponegoro, 2020).
2. Kemenkes, R. I. Hasil studi status gizi Indonesia (SSGI) tingkat nasional, provinsi, dan kab/kota tahun 2021. *Kementeri. Kesehat. Repub. Indones.* (2021).
3. Khosiah, N., Dirgayunita, A., Soliha, I. A. & Adawiyah, R. Edukasi pernikahan dini dalam upaya pencegahan stunting pada Jam'iyah Muslimat Al-Barokah. *Bubungan Tinggi J. Pengabd. Masy.* **4**, 436 (2022). <https://doi.org/10.20527/btjpm.v4i2.4784>
4. McGovern, M. E., Krishna, A., Aguayo, V. M. & Subramanian, S. V. A review of the evidence linking child stunting to economic outcomes. *Int. J. Epidemiol.* **46**, 1171–1191 (2017). <https://doi.org/10.1093/ije/dyx017>
5. Nazri, C. et al. Factors influencing mother's participation in Posyandu for improving nutritional status of children under-five in Aceh Utara district, Aceh province, Indonesia. *BMC Public Health* **16**, 1–9 (2015). <https://doi.org/10.1186/s12889-016-2732-7>
6. Zaman, N., Rosyid, F. N. & Ba'diah, A. Analysis of determinant stunting primary school students in remote areas of Southeast Aceh district. (2022). <https://doi.org/10.53022/oarjst.2022.6.1.0045>
7. Rahayu, T. H. S., Suryani, R. L. & Utami, T. Gambaran tingkat pengetahuan ibu tentang stunting pada balita di Desa Kedawung Kecamatan Susukan Kabupaten Banjarnegara. *Borneo Nurs. J. BNJ* **4**, 10–17 (2022).
8. Olsa, E. D., Sulastri, D. & Anas, E. Hubungan sikap dan pengetahuan ibu terhadap kejadian stunting pada anak baru masuk Sekolah Dasar di kecamatan Nanggalo. *J. Kesehat. Andalas* **6**, 523–529 (2018).
9. Nazamuddin, B. S. & Nugroho, A. Post-disaster recovery and a new economic growth path: A comparative study of three provinces in Indonesia. in *IOP Conference Series: Earth and Environmental Science* vol. 273 012061 (IOP Publishing, 2019). DOI: 10.1088/1755-1315/273/1/012061
10. Serambinews. Gizi buruk picu anak stunting di Aceh meningkat. *Serambinews* <https://aceh.tribunnews.com/2013/10/02/gizi-buruk-picu-anak-stunting-di-aceh-meningkat> (2013).
11. JDIH. Prevalensi stunting di Aceh turun sebanyak 4,7 persen. *Jaringan dokumentasi dan informasi hukum Aceh* <https://jdih.acehprov.go.id/news/post/prevalensi-stunting-di-aceh-turun-sebanyak-47-persen> (2022).
12. Dishub Aceh. GISA percepat penanganan stunting dan imunisasi di Aceh. <https://dishub.acehprov.go.id/informasi/gisa-percepat-penanganan-stunting-dan-imunisasi-di-aceh/> (2022).
13. Ernawati, R. Hubungan pengetahuan ibu dengan kejadian stunting balita di Puskesmas Loa Ipuh Tenggarong. (2022). <https://doi.org/10.35963/hmjk.v12i2.348>
14. Nursa'iidah, S. Hubungan pendidikan, pendidikan, dan usia ibu dengan pengetahuan ibu balita tentang stunting di Posyandu BMI 3 Desa Segara Jaya Kabupaten Bekasi. (Universitas Pembangunan Nasional Veteran Jakarta, 2020). <http://repository.upnvj.ac.id/id/eprint/64200>
15. Paramita, L. D. A., Devi, N. & Nurhesti, P. O. Y. Hubungan pengetahuan dan sikap ibu mengenai stunting dengan kejadian stunting di Desa Tiga, Susut, Bangli. *Coping Community Publ Nurs* **9**, 323 (2021). <https://doi.org/10.24843/coping.2021.v09.i03.p11>
16. Wardani, L., Wiguna, R. I., Pa'ni, D. M. Q., Haerani, B. & Apriani, L. A. Hubungan tingkat pengetahuan ibu dengan kejadian stunting pada balita usia 24-59 bulan. *J. Kesehat. Qamarul Huda* **10**, 190–195 (2022). <https://doi.org/10.37824/jkqh.v10i2.2022>
17. Silviana, R., Sundari, S. & Nugraheny, E. Tingkat pengetahuan ibu tentang bayi stunting. *J. Ilmu Kebidanan* **8**, (2021). <https://doi.org/10.48092/jik.v8i1.155>
18. Nurmayasanti, A. & Mahmudiono, T. Status sosial ekonomi dan keragaman pangan pada balita stunting dan non-stunting usia 24-59 bulan di Wilayah Kerja Puskesmas Wilangan Kabupaten Nganjuk. *Amerta Nutr.* **3**, 114–121 (2019). <http://repository.unair.ac.id/id/eprint/125266>
19. Simanullang, P. Pengetahuan ibu tentang stunting pada balita di uskesmas Pulo Brayon Kota Medan tahun 2022. *J. Darma Agung Husada* **9**, 40–47 (2022).

- <https://ejournal.darmaagung.ac.id/index.php/dar-maagunghusada/article/view/2399>. Date accessed: 20 nov. 2024.
20. Syarif, S. N. Hubungan faktor ibu dengan kejadian stunting balita usia 0-59 bulan di wilayah kerja Puskesmas Kassi-Kassi Kecamatan Rappocini tahun 2021. *Univ. Islam Negeri Alauddin Makassar* (2022).
 21. Wulandari, R. C. & Muniroh, L. Hubungan tingkat kecukupan gizi, tingkat pengetahuan ibu, dan tinggi badan orangtua dengan stunting di wilayah kerja Puskesmas Tambak Wedi Surabaya. *Amerta Nutr* **95**, (2020). <https://doi.org/10.20473/amnt.v4i2.2020.95-102>
 22. Hidayati, R. & Hasibuan, R. Hubungan tingkat pengetahuan ibu dengan balita stunting usia 2-4 tahun. *Early Child. J. Pendidik.* **6**, 12–30 (2022). <https://doi.org/10.35568/earlychildhood.v6i2.2408>
 23. Tsaralatifah, R. Faktor yang berhubungan dengan kejadian stunting pada baduta di Kelurahan Ampel Kota Surabaya (Determinants of stunted children under two years old in Ampel Village, Surabaya). *Amerta Nutr* **4**, 171–7 (2020). DOI: 10.2473/amnt.v4i2.2020.171-177
 24. Kurniati, P. T. Hubungan tingkat pengetahuan dan sikap ibu terhadap kejadian stunting pada balita di Puskesmas Sungai Durian Kabupaten Sintang tahun 2021. *J. Med. Usada* **5**, 58–64 (2022). <https://doi.org/10.54107/medikausada.v5i1>
 25. Julianti, M., Siringo-ringo, E. & Tambunan, I. Y. B. Hubungan Pengetahuan Ibu dengan Kejadian Stunting Pada Anak Umur 35-59 Bulan di Wilayah Pustu Panjaran Kabupaten Tapanuli Utara Tahun 2022. **3**, 378–383 (2022). <https://doi.org/10.31004/jkt.v3i3.6412>
 26. Tambunan, I. Y. B. Hubungan pengetahuan ibu dengan kejadian stunting pada anak umur 35-59 bulan di wilayah Pustu Panjaran Kabupaten Tapanuli Utara tahun 2022. *J. Kesehatan. Tambusai* **3**, 378–383 (2022).
 27. Dewi, N. W. E. P. & Ariani, N. K. S. Hubungan pengetahuan ibu tentang gizi menurunkan resiko stunting pada balita di Kabupaten Gianyar. *Menara Med.* **3**, (2021). <https://doi.org/10.31869/mm.v3i2.2450>
 28. Ni'mah, C. & Muniroh, L. Hubungan tingkat pendidikan, tingkat pengetahuan dan pola asuh ibu dengan wasting dan stunting pada balita keluarga miskin. *Media Gizi Indonesia.* **10**, 84–90 (2015). DOI: 10.20473/mgi.v10i1.13-19
 29. Lestari, W., Samidah, I. & Diniarti, F. Hubungan pendapatan orang tua dengan kejadian stunting di Dinas Kesehatan Kota Lubuklinggau. *J. Pendidik. Tambusai* **6**, 3273–3279 (2022).
 30. Toliu, S. N. K., Malonda, N. S. & Kapantow, N. H. Hubungan antara tinggi badan orang tua dengan kejadian stunting pada anak usia 24-59 bulan di Kecamatan Pasan Kabupaten Minahasa Tenggara. *KESMAS* **7**, (2019).
 31. Yoga, I. T. Gambaran pengetahuan ibu tentang stunting pada balita di Posyandu Desa Segarajaya Kabupaten Bekasi. (Universitas Pembangunan Nasional Veteran Jakarta, 2020). <http://repository.upnvj.ac.id/id/eprint/6311>