

PARENTING PATTERNS AND FAMILY CHARACTERISTICS AMONG STUNTED TODDLERS IN PALEMBANG

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ABSTRACT

Until today, there are still more than 20% children under five years old experiencing stunting due to malnutrition over a long time both in Indonesia and also globally. Therefore, an integrated program is needed to reduce the prevalence of stunting. This study investigated the correlation between parenting patterns and family characteristics with stunting. A matched case-control design was used based on age. Up to 40 cases and 40 controls of mothers having toddlers aged 24-59 months were selected as samples using simple random sampling technique. This study was conducted in Seberang Ulu I Sub-District, Palembang City, from September to October 2020. The data that has been collected were analyzed using univariate and bivariate analysis. The result showed that stunted and normal toddlers were mostly from mothers with poor parenting patterns in terms of feeding (72.5% & 45.0%), hygiene and sanitation (35.0% & 32.5%), and health care (42.5% & 15.0%). In addition, more cases of stunting came from mothers with high school education and below, low-income, at least 4 family members, and having more than 1 toddler. Feeding pattern, health care pattern, and mother's education affect toddlers' growth. The risk of stunting was higher in toddlers raised by mothers with low education, with poor feeding and health care practices than else.

Keywords: family characteristics, parenting patterns, stunting

INTRODUCTION

Stunting is a health problem experienced by toddlers due to chronic malnutrition especially from the womb until they become 23 months old which then affects growth faltering. In the world, the prevalence recorded decreased from 199.5 million (32.4%) in 2000 to 144 million (21.3%) in 2019. However, the highest prevalence is in South Asia (33.2%) and Sub-Saharan Africa (32.7%) (UNICEF, 2020). Indonesia still faces big challenges in preventing stunting and is the second country with the highest prevalence in the Southeast Asia region after Cambodia (Hidayat et al., 2019). The 2018 of *Riset Kesehatan Dasar (Riskesdas)* showed the prevalence among children aged 0-23 and 0-59 months was 29.9% and 30.8%, respectively. Based on the survey carried out in 2019 by the *Survei Status Gizi Balita Terintegrasi (SSGBI)*, the prevalence among the 0-59 months age group was 27.67%. Although there has been a decrease, it still remains a public health problem. Therefore, the Indonesian Government has set a target for the fulfillment of basic services in the Medium-Term National Development Plan (RPJMN) 2020-2024, to reduce the prevalence of

stunting and severe stunting among toddlers by 19.0% in 2024 (Bappenas, 2019).

Based on the results from the SSGBI in 2019 too, the prevalence of stunting among toddlers in the South Sumatra Province was higher compared to the National, namely 28.98%. Moreover, in 2020, Palembang City was selected to become a priority locus for stunting apart from Ogan Ilir, Lahat, and Banyuasin Regency, which have been determined by the Indonesian Government.

The highest prevalence of stunting recorded in this City in 2018 was in Seberang Ulu I Sub-District, specifically at the work area of *Puskesmas 1 Ulu* (26.6%) (Pemerintah Kota Palembang Dinas Kesehatan, 2019). Seberang Ulu I is one of the sub-districts located along the Musi River experiencing environmental problems such as the low proportion of households with clean and healthy lifestyles, access to proper sanitation for the population, and fulfill the health requirements.

One of the possible approaches to prevent stunting is parenting patterns, which covers various aspects, such as feeding, hygiene and sanitation, health care, and psychosocial stimulation. Several results also showed that poor parenting causes

toddlers to experience stunting, in terms of feeding (Femidio and Muniroh, 2020; Hijra et al., 2016; Zakaria and Suma, 2020), hygiene and sanitation (Pratiwi and Wahyuningsih, 2018; Rah et al., 2015; Yudianti and Saeni, 2016), health care (Bella et al., 2020; Nasrul et al., 2015; Noftalina et al., 2019), psychosocial stimulation (Noftalina et al., 2019). Furthermore, family characteristics such as maternal education (Abeway et al., 2018; Arbie and Labatjo, 2019; Beal et al., 2018; Ni'mah and Nadhiroh, 2015), monthly income (Islam et al., 2018; Sari et al., 2020), the number of family members (Cruz et al., 2017) and the number of toddlers in the household (Nkurunziza et al., 2017) influence the stunting incidence.

This study aims to determine the differences in parenting patterns, as well as the family characteristics of stunted and normal toddlers in Palembang City. It is also useful for the health office, public health center, and the community in identifying and mapping the real conditions of toddlers, especially nutritional status in the Seberang Ulu I Sub-District. The proposed hypothesis is that parenting patterns and family characteristics affect stunting in toddlers.

METHODS

A quantitative analytic approach with a matched case-control design and age as the matched variable was used. Investigations on stunting using commensurate case-control designs have not been much conducted and with no application of Conditional Logistics Regression analysis yet. Hence, this study provides more value for the academic world. Samples were mothers with children aged 24-59 months living in the Seberang Ulu I Sub-District. Furthermore, they were divided into the case group consisting of stunted toddlers, and the control comprising those having height according to normal age. Meanwhile, the inclusion criteria were single birth and last child, while the exclusion criteria were children with congenital heart disease/Diabetes Mellitus (DM) type 1. The sample size was calculated using the hypothesis test formula for the Odds Ratio (OR) value in both case and control group with an error rate (α) of 5%, power of the test ($1-\beta$) of 80%, OR=4.2, $P_1=0.75$ dan $P_2=0.417$ (Rahmad and

Miko, 2016) and nonresponse (*drop out*) of 10%. Therefore, minimum samples of 40 cases dan 40 age-matched control were obtained. The sampling technique used was simple random sampling with data from e-PPGBM and recording of toddlers carried out by *posyandu* cadres or midwives in three health centers located in Seberang Ulu I Sub-District as a sampling frame.

The calculations of matched case-control samples in this study.

$$M \approx \frac{m}{P_2(1 - P_1) + P_1(1 - P_2)}$$

$$m = \frac{\left[\frac{(z_{1-\alpha})}{2} + z_{1-\beta} \sqrt{P(1 - P)} \right]^2}{(P - 1/2)^2}$$

$$P = \frac{OR}{(1 + OR)}$$

Explanation:

- M : Matched case-control that needed
- m : Total samples that needed
- OR : Risk differences
- P_2 : The proportion of exposure subject in control group
- P_1 : The proportion of exposure subject in cases group

The data collected were processed and analyzed with statistical tools, where, univariate analysis was employed to explain the independent and dependent variables Bivariate analysis was carried out using Conditional Logistic Regression by displaying the OR value (95% CI), while the data obtained were presented in narrative and table form. Ethical approval was received from the Health Research Ethics Commission (KEPK) of the Faculty of Public Health, Universitas Sriwijaya, with Number 309/UN9.1.10/KKE/2020.

RESULTS AND DISCUSSIONS

The respondents' characteristics in the case and control groups can be seen in Table 1. The proportion of mothers with less feeding pattern in the case group (stunted) was higher by 27.5% compared to the control (normal), while those with less hygiene and sanitation (2.5%) as well as health

Table 1. Descriptive of Respondents Characteristics

Variables	Stunting			
	Yes	%	No	%
Feeding Pattern				
Less ($\leq 80\%$)	29	72.5	18	45.0
Good ($> 80\%$)	11	27.5	22	55.0
Hygiene and Sanitation Pattern				
Less ($\leq 80\%$)	14	35.0	13	32.5
Good ($> 80\%$)	26	65.0	27	67.5
Health Care Pattern				
Less ($\leq 80\%$)	17	42.5	6	15.0
Good ($> 80\%$)	23	57.5	34	85.0
Mother's Educational Level				
Less than SHS	25	62.5	12	30.0
SHS and above	15	37.5	28	70.0
Monthly Family Income				
Less than UMK	39	97.5	37	92.5
UMK and above	1	2.5	3	7.5
Number of Family Members				
Min 4 members	28	70.0	21	52.5
Max 4 members	12	30.0	19	47.5
Number of Toddlers				
2-3 toddlers	14	35.0	7	17.5
1 toddler	26	65.0	33	82.5

Source: Primary Data, 2020

SHS: Senior High School

UMK: *Upah Minimum Kota* (IDR 3,165,519)

care pattern (27.5%) was higher in the case group compared to the control group, respectively.

The proportion of mothers with high school education and below in the case group (stunted) was higher by 32.5% compared to the control (normal). The UMK between the case (97.5%) and the control group (92.5%). The number of family members of at least 4 individuals in the case group was more compared to the control by 17.5%. Meanwhile, the number of toddlers in the case group was 2-3, which was 17.5% more compared to the control.

Table 2 describes the effect of parenting patterns and family characteristics on the incidence of stunting among children aged 24-59 months in Seberang Ulu I Sub-District, Palembang. Variables of feeding pattern, health care pattern, and mother's educational level influence the incidence of stunting in toddlers. Moreover, the results showed mothers with poor feeding pattern were 2.4 times higher risk to having stunted children

compared to their counterparts ($p = 0.040$; 95% CI = 1.04 to 5.42).

The risk of toddlers experiencing stunting is also higher in mothers that are not good at providing suitable health care than their counterpart ($p = 0.015$; OR = 4.67; 95% CI = 1.34 to 16.24). Meanwhile, the probability of toddlers experiencing stunting was also higher among mothers with high school education and below than mothers with high school education and above ($p = 0.009$; OR = 4.25; 95% CI = 1.43 to 12.63).

Stunting is a nutritional problem experienced by toddlers in Indonesia and around the world, which has an impact on the quality of Human Resources (HR). It contributes to 1.5 million (15%) toddler deaths globally and also causes 55 million Disability-Adjusted Life Years (DALYs) yearly. Stunting and various forms of nutritional problems are estimated to contribute to the loss of 2-3% of Gross Domestic Product (GDP) each year. Consequently, Indonesia is committed to reducing the cases by enacting Presidential Regulation Number 42 of 2013 concerning the National Movement on the Acceleration of Nutrition Improvement as outlined in the 2015-2019 National Food and Nutrition Action Plan (*RAN-PG*). The government stipulated Presidential Regulation Number 59 of 2017 concerning the Implementation of Achieving the Sustainable Development Goals (SDGs), which establishes stunting as a national priority. The central government also prepared a National Strategy to Accelerate Stunting Prevention from 2018 to 2014 (*Stranas Stunting*) (Bappenas, 2018).

Reduction of stunting is accomplished through two interventions, namely specific and sensitive nutrition interventions, where the initial is an activity generally carried out by the health sector, directly or specifically aimed at certain target groups such as toddlers, pregnant and young women, e.t.c. are. However, specific nutrition only contributes 30% in overcoming nutritional problems, while the remaining 70% is from sensitive nutrition interventions like providing access to clean water and sanitation, perform food fortification, providing access to health and family planning services, providing parenting education to parents (Bappenas, 2018). This is meant to prevent and reduce indirect nutritional problems

Table 2. Effect of Parenting Patterns and Family Characteristics with Stunting in Toddlers in Palembang

Variables	Stunting				OR (95%)	<i>p</i> -value
	Yes	%	No	%		
Feeding Pattern						
Less ($\leq 80\%$)	29	72.5	18	45.0	2.37 (1.04 – 5.42)	0.040*
Good ($> 80\%$)	11	27.5	22	55.0	Reference	
Hygiene and Sanitation Pattern						
Less ($\leq 80\%$)	14	35.0	13	32.5	1.11 (0.45 – 2.73)	0.819
Good ($> 80\%$)	26	65.0	27	67.5	Reference	
Health Care Pattern						
Less ($\leq 80\%$)	17	42.5	6	15.0	4.67 (1.34 – 16.24)	0.015*
Good ($> 80\%$)	23	57.5	34	85.0	Reference	
Mother's Educational Level						
Less than Senior High School	25	62.5	12	30.0	4.25 (1.43 – 12.63)	0.009*
Senior High School and above	15	37.5	28	70.0	Reference	
Monthly Family Income						
Less than UMK	39	97.5	37	92.5	3.00 (0.31 – 28.84)	0.341
UMK and above	1	2.5	3	7.5	Reference	
Number of Family Members						
At least 4 members	28	70.0	21	52.5	2.17 (0.82 – 5.70)	0.117
Maximal 4 members	12	30.0	19	47.5	Reference	
Number of Toddlers						
2-3 toddlers	14	35.0	7	17.5	2.00 (0.81 – 4.95)	0.134
1 toddler	26	65.0	33	82.5	Reference	

Source: Primary Data, 2020

* sig < 0.05

and is generally carried out by sectors outside of health (across ministries and institutions) (Rosha et al., 2016).

Parenting is an effort to fulfill the need for love, security, and sustainable welfare in the best interests of the child, provided by parents or families. Commitment, knowledge, and skills are needed by parents or families to implement the best parenting styles. Children need different mental stimulations (*asah*) which is the starting point in the learning process, psychosocial development, skills, intelligence, creativity, independence, morals, personality, and productivity. They also need affection (*asih*) leading to the creation of a close bond and basic trust with the parent. The last is biomedical physical needs (*asuh*) including food, nutrition, and the fulfillment of children's basic needs (Pranawati et al., 2015).

The results showed the incidence of stunting in toddlers was influenced by the feeding pattern. Previous studies by Widyaningsih et al., in 2018 and Bella et al., in 2020 discovered a correlation

between feeding pattern and stunting in toddlers ($p < 0.05$) (Bella et al., 2020; Widyaningsih et al., 2018). In this study, up to 32.5% of stunted toddlers did not receive exclusive breastfeeding, 60.0% given early complementary feeding, and 27.5% didn't consume varied foods. The results are in line with previous studies which stated toddlers not provided with exclusive breastfeeding were more at risk of stunting (Campos et al., 2020; Windasari et al., 2020). Abeway et al., 2018 also said toddlers with early complementary feeding had 2.4 times higher risk of stunting compared to the toddlers with timely complementary feeding (95% CI: 1.26 to 4.66) (Abeway et al., 2018). In addition, Widyaningsih et al. stated proportion of stunted toddlers did not consume a variety of foods (85.4%) higher than the normal counterpart (62.7%) and the results were statistically significant ($p = 0.024$) (Widyaningsih et al., 2018).

In addition to feeding pattern, it was discovered that health care pattern also affects stunting such as monitoring child's growth and

development in *posyandu* every month. The results showed up to 17.5% of stunted toddlers did not weigh and measure their height at the *posyandu* and 27.5% had never received deworming medicine. These are in line with a previous study that stated proportion of stunted toddlers (68.8%) received poor health care from mothers higher than the normal counterpart (31.2%) ($p < 0.0001$) (Bella et al., 2020).

Exclusive breastfeeding, complementary feeding, weighing, and measuring height at the *posyandu* are part of priority-specific nutrition interventions for lactating mothers and children aged 0-23 months (target group). Various activities were carried out such as promotion for infant and child feeding (*Pemberian Makan Bayi dan Anak*), counseling for breastfeeding, and growth monitoring activities. Meanwhile, helminthiasis prevention is a priority intervention carried out according to certain conditions (for children aged 24-59 months). Diversity in food consumption is one part of sensitive nutrition interventions, namely increasing access to nutritious food through programs/activities to access non-cash food assistance (*Bantuan Pangan Nontunai*) for underprivileged families (Bappenas, 2018). These various activities are carried out in an integrated manner between specific and sensitive nutrition interventions to ensure stunting reduction efforts are more effective.

Meanwhile, the education of parents, especially mothers, plays an important role in determining the nutritional status of children. The results showed that maternal education is one of the factors influencing the incidence of stunting among toddlers. This result is supported by several previous results (Aguree et al., 2020; Alderman and Headey, 2017; Indriyan et al., 2018; Javid and Pu, 2020; Soekatri et al., 2020). A study in India and Ethiopia showed mothers with higher educational qualifications have lower probability to have a stunted toddler than to those with less educational qualifications (Dhami et al., 2019; Musbah and Worku, 2016). Subsequently, in efforts to prevent stunting among toddlers, mothers play an active role in increasing knowledge through various ways, including seeking information from health workers, *posyandu* or public health centers and mass media (printed or online).

The study carried out in Nigeria showed mother's knowledge about health and nutritional intake were capable of replacing formal education as an effort to reduce nutritional problems for toddlers in conditions of limited access to formal education (Fadare et al., 2019). Meanwhile, the result from West et al. suggested that using various media and services, over 80%, 31.7%, and 16.9% of Indonesian mothers obtain information about stunting from *posyandu*, public health centers, and internet, respectively. This indicates *posyandu* is still a facility capable of providing reliable information because it is designed to deliver basic health services to mothers and children, particularly monitoring their developmental process (West et al., 2018). This is in line with several activities in specific and sensitive nutrition interventions that aim to increase awareness, commitment, parenting and maternal nutrition practices such as providing guidance in increasing community nutrition knowledge, disseminating information through various media, and providing parenting counseling for parents (parenting class) (Bappenas, 2018).

CONCLUSION

Based on the results, it was concluded that toddlers from mothers with high school education and below as well as less feeding and health care patterns tend to experience stunting ($p\text{-value} < 0.05$). However, monthly income, total members of the family, number of toddlers born, hygiene, and sanitation practice had no significant effect on stunting. The suggestions provided include parents or families (especially mothers) need to continue doing a good parenting pattern, feeding and health care practices, monitoring children's growth and development regularly through health workers or clinical service facilities (like *posyandu*).

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CONFLICT OF INTEREST AND FUNDING DISCLOSURE

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REFERENCES

- Abeway, S., Gebremichael, B., Murugan, R., Assefa, M., & Adinew, Y. M. (2018). Stunting and its determinants among children aged 6–59 months in Northern Ethiopia: A cross-sectional study. *Journal of Nutrition and Metabolism*, 2018, 1–8. <https://doi.org/10.1155/2018/1078480>.
- Aguree, S., Soyiri, I. N., & Ziem, J. B. (2020). Maternal educational attainment is associated with child nutrition status, in Northern Ghana. *Acta Scientific Nutritional Health*, 4(3), 1–8.
- Alderman, H., & Headey, D. D. (2017). How important is parental education for child nutrition? *World Development*, 94, 448–464. <https://doi.org/10.1016/j.worlddev.2017.02.007>.
- Arbie, F. Y., & Labatjo, R. (2019). Examining the nutrition levels and stunting problem in Indonesian children. *Jurnal AcTion*, 4(2), 89–98. <https://doi.org/10.30867/action.v4i2.126>.
- Bappenas. (2018). *Pedoman Pelaksanaan Intervensi Penurunan Stunting Terintegrasi di Kabupaten/Kota*. Jakarta: Kementerian Perencanaan dan Pembangunan Nasional/ Bappenas. Retrieved from [http://tnp2k.go.id/filemanager/files/Rakornis2018/Pedoman Pelaksanaan Intervensi Penurunan Stunting Terintegrasi Di Kabupaten Kota.pdf](http://tnp2k.go.id/filemanager/files/Rakornis2018/PedomanPelaksanaanIntervensiPenurunanStuntingTerintegrasiDiKabupatenKota.pdf)
- Bappenas. (2019). *Rancangan Teknokratik Rencana Pembangunan Jangka Menengah Nasional 2020-2024*. Jakarta: Kementerian PPN/ Bappenas. Retrieved from [https://www.bappenas.go.id/files/rpjmn/Narasi RPJM IV 2020-2024_Revisi 14 Agustus 2019.pdf](https://www.bappenas.go.id/files/rpjmn/Narasi_RPJM_N IV_2020-2024_Revisi_14_Agustus_2019.pdf)
- Beal, T., Tumilowicz, A., Sutrisna, A., Izwardy, D., & Neufeld, L. (2018). A review of child stunting determinants in Indonesia. *Maternal & Child Nutrition*, 14(e12617), 1–10. <https://doi.org/https://doi.org/10.1111/mcn.12617>.
- Bella, F. D., Fajar, N. A., & Misnaniarti, M. (2020). Hubungan pola asuh dengan kejadian stunting balita dari keluarga miskin di Kota Palembang. *Jurnal Gizi Indonesia*, 8(1), 31–39. <https://doi.org/https://doi.org/10.14710/jgi.8.1.31-39>.
- Campos, A. P., Vilar-Compte, M., & Hawkins, S. S. (2020). Association between breastfeeding and child stunting in Mexico. *Annals of Global Health*, 86(1), 1–14. <https://doi.org/10.5334/aogh.2836>.
- Cruz, L. M. G., Azpeitia, G. G., Suárez, D. R., Rodríguez, A. S., Ferrer, J. F. L., & Serra-Majem, L. (2017). Factors associated with stunting among children aged 0 to 59 months from the Central Region of Mozambique. *Nutrients*, 9(5), 491. <https://doi.org/10.3390/nu9050491>.
- Dhami, M. V., Ogbo, F. A., Osuagwu, U. L., Ugboma, Z., & Agho, K. E. (2019). Stunting and severe stunting among infants in India: The role of delayed introduction of complementary foods and community and household factors. *Global Health Action*, 12(1), 1–10. <https://doi.org/https://doi.org/10.1080/16549716.2019.1638020>.
- Fadare, O., Amare, M., Mavrotas, G., Akerele, D., & Ogunniyi, A. (2019). Mother's nutrition-related knowledge and child nutrition outcomes: Empirical evidence from Nigeria. *PLoS ONE*, 14(2), e0212775. <https://doi.org/10.1371/journal.pone.0212775>.
- Femidio, M., & Muniroh, L. (2020). Perbedaan pola asuh dan tingkat kecukupan zat gizi pada balita stunting dan non-stunting di Wilayah Pesisir Kabupaten Probolinggo. *Amerta Nutrition*, 4(1), 49–57. <https://doi.org/10.20473/amnt.v4i1.2020.49-57>.
- Hall, C., Bennett, C., Crookston, B., Dearden, K., Hasan, M., Linehan, M., Syafiq, A., Torres, S., & West, J. (2018). Maternal knowledge of stunting in rural Indonesia. *International Journal of Child Health and Nutrition*, 7(4), 139–145. <https://doi.org/10.6000/1929-4247.2018.07.04.2>.
- Hidayat, T., Tuhiman, H., Asmanto, P., Kurniawati, S., Suryanto, G. I., & Adji, A. (2019). *Pengembangan Peta Status Gizi Balita dan Prevalensi Stunting*. Jakarta: Tim Nasional Percepatan Penanggulangan Kemiskinan.
- Hijra, H., Muis, S. F., & Kartasurya, M. I. (2016). Inappropriate complementary feeding practice increases risk of stunting in children aged 12–24 months. *Universa Medicina*, 35(3), 146–155. <https://doi.org/http://dx.doi.org/10.18051/UnivMed.2016.v35.146-155>.
- Indriyan, E., Dewi, Y. L. R., & Salimo, H. (2018). Biopsychosocial determinants of stunting in

- children under five: A path analysis evidence from the Border Area West Kalimantan. *Journal of Maternal and Child Health*, 3(2), 146–155. <https://doi.org/10.26911/thejmch.2018.03.02.07>.
- Islam, M. M., Sanin, K. I., Mahfuz, M., Ahmed, A. M. S., Mondal, D., Haque, R., & Ahmed, T. (2018). Risk factors of stunting among children living in an Urban Slum of Bangladesh: Findings of a prospective cohort study. *BMC Public Health*, 18(1), 197. <https://doi.org/10.1186/s12889-018-5101-x>.
- Javid, N., & Pu, C. (2020). Maternal stature, maternal education and child growth in Pakistan: A cross-sectional study. *AIMS Public Health*, 7(2), 380–392. <https://doi.org/10.3934/publichealth.2020032>.
- Musbah, E., & Worku, A. (2016). Influence of maternal education on child immunization and stunting in SNNPR, Ethiopia. *Central African Journal of Public Health*, 2(2), 71–82. <https://doi.org/10.1007/s10995-010-0670-z>.
- Nasrul, N., Hafid, F., Thaha, R., & Suriah, S. (2015). Faktor risiko stunting usia 6-23 bulan di Kecamatan Bontoramba Kabupaten Jeneponto. *Media Kesehatan Masyarakat Indonesia*, 11(3), 139–146.
- Ni'mah, K., & Nadhiroh, S. R. (2015). Faktor yang Berhubungan dengan Kejadian Stunting pada Balita. *Media Gizi Indonesia*, 10(1), 13–19. <https://doi.org/http://dx.doi.org/10.20473/mgi.v10i1.13-19>
- Nkurunziza, S., Meessen, B., Van geertruyden, J.-P., & Korachais, C. (2017). Determinants of stunting and severe stunting among Burundian children aged 6-23 months: Evidence from a national cross-sectional household survey, 2014. *BMC Pediatrics*, 17(1), 176. <https://doi.org/10.1186/s12887-017-0929-2>.
- Noftalina, E., Mayetti, M., & Afriwardi, A. (2019). Hubungan kadar zinc dan pola asuh ibu dengan kejadian stunting pada anak usia 2 – 5 tahun di Kecamatan Panti Kabupaten Pasaman. *Jurnal Ilmiah Universitas Batanghari Jambi*, 19(3), 565–569. <https://doi.org/10.33087/jiubj.v19i3.723>.
- Pemerintah Kota Palembang Dinas Kesehatan. (2019). *Profil Kesehatan Tahun 2018*. Palembang: Dinas Kesehatan Kota Palembang. Retrieved from <https://dinkes.palembang.go.id/tampung/dokumen/dokumen-161-298.pdf>
- Pranawati, R., Naswardi, N., & Zulkarnaen, S. D. (2015). *Kualitas Pengasuhan Anak Indonesia: Survei Nasional dan Telaah Kebijakan Pemenuhan Hak Pengasuhan Anak di Indonesia*. Jakarta: Komisi Perlindungan Anak Indonesia (KPAI). Retrieved from https://www.researchgate.net/publication/331895228_Kualitas_Pengasuhan_Anak_Indonesia_Survei_Nasional_Dan_Telaah_Kebijakan_Pemenuhan_Hak_Pengasuhan_Anak_di_Indonesia
- Pratiwi, I. G., & Wahyuningsih, R. (2018). Risk factors of stunting among children in some areas in Indonesia : A Literature Review. *International Journal of Studies in Nursing*, 3(3), 41–44. <https://doi.org/https://doi.org/10.20849/ijns.v3i3.468>.
- Primasari, Y., & Anna Keliat, B. (2020). Praktik pengasuhan sebagai upaya pencegahan dampak stunting pada perkembangan psikososial kanak-kanak. *Jurnal Ilmu Keperawatan Jiwa*, 3(3), 263–272. <https://doi.org/10.32584/JIKJ.V3I3.609>.
- Rah, J. H., Cronin, A. A., Badgaiyan, B., Aguayo, V., Coates, S., & Ahmed, S. (2015). Household sanitation and personal hygiene practices are associated with child stunting in Rural India: A cross-sectional analysis of surveys. *BMJ Open*, 5(e005180). <https://doi.org/http://dx.doi.org/10.1136/bmjopen-2014-005180>.
- Rahmad, A. H. AL, & Miko, A. (2016). Kajian stunting pada anak balita berdasarkan pola asuh dan pendapatan keluarga di Kota Banda Aceh. *Jurnal Kesmas Indonesia*, 8(2), 63–78.
- Rosha, B. C., Sari, K., Yunita, I., Amaliah, N., & Utami, N. (2016). Peran intervensi gizi spesifik dan sensitif dalam perbaikan masalah gizi balita di Kota Bogor. *Buletin Penelitian Kesehatan*, 44(2), 127–138. <https://doi.org/10.22435/bpk.v44i2.5456.127-138>.
- Sari, I. P., Ardillah, Y., & Rahmiwati, A. (2020). Berat bayi lahir dan kejadian stunting pada anak usia 6-59 bulan di Kecamatan Seberang Ulu I Palembang. *Jurnal Gizi Indonesia*, 8(2), 110–118. <https://doi.org/10.14710/jgi.8.2.110-118>.
- Soekatri, M. Y. E., Sandjaja, S., & Syauqy, A. (2020). Stunting was associated with reported morbidity, parental education and socioeconomic status in 0.5–12-year-old Indonesian children. *International Journal of Environmental Research and Public Health*, 17(17), 1–9. <https://doi.org/10.3390/ijerph17176204>.
- UNICEF. (2020). Malnutrition. Retrieved from <https://data.unicef.org/topic/nutrition/malnutrition/>

- West, J., Syafiq, A., Crookston, B., Bennett, C., Hasan, M. R., Dearden, K., Linehan, M., Hall, C., & Torres, S. (2018). Stunting-related knowledge: Exploring sources of and factors associated with accessing stunting-related knowledge among mothers in Rural Indonesia. *Health, 10*, 1250–1260. <https://doi.org/10.4236/health.2018.109096>.
- Widyaningsih, N. N., Kusnandar, & Anantanyu, S. (2018). Keragaman pangan, pola asuh makan dan kejadian stunting pada balita usia 24-59 bulan. *Jurnal Gizi Indonesia, 7*(1), 22–29. <https://doi.org/10.14710/jgi.7.1.22-29>.
- Windsari, D. P., Syam, I., & Kamal, L. S. (2020). Faktor hubungan dengan kejadian stunting di Puskesmas Tamalate Kota Makassar. *AcTion: Aceh Nutrition Journal, 5*(1), 27–34. <https://doi.org/10.30867/action.v5i1.193>.
- Yudianti, Y., & Saeni, R. H. (2016). Pola asuh dengan kejadian stunting pada balita di Kabupaten Polewali Mandar. *Jurnal Kesehatan Manarang, 2*(1), 21–25. <https://doi.org/https://doi.org/10.33490/jkm.v2i1.9>.
- Zakaria, R., & Suma, J. (2020). The determinant of stunting prevalence in 24-59 month children in Hayahaya Village, Western Limboto Sub-district, Gorontalo Regency. *Journal of Maternal and Child Health, 5*(3), 287–296. <https://doi.org/https://doi.org/10.26911/thejmch.2020.05.03.07>.