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Responsive feeding education for parents with stunting babies aged 12-36 months

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ABSTRACT

Background of Study: North Sulawesi Province becomes a province which has 31.4% of stunting cases. North Minahasa Regence becomes one of stunting local areas which are intervened in order to occur reduction cases which currently amounted to 29.7%. One of factors which affect stunting are mother's knowledge which influence feeding practices. Responsive feeding is feeding practices which is recommended by WHO conducted with psychosocial approach. Responsive feeding effects on physical and mental development of babies. Mothers who live in stunting-prone area have lower responsive feeding knowledge and practice than those in non-stunting areas.

Purpose of Study: for investigating the effect of feeding education with the concept of responsive feeding on the knowledge and practice of eating on stunting babies aged 12-36 months.

Method of Study: This study was quantitative study with experimental quasi approach. The study was conducted in Wori District, there were 11 people in case group and 7 people in control group. The respondent criteria were mothers who had stunting toddler aged 12-36 months and were not experiencing mental health. The analysis in this study used univariate and bivariate test. Pretest was provided before education was provided and post test was conducted 2 weeks after education.

Result: Univariate test which is used is chi-square test and bivariate analysis is conducted through Independent Sample T-test. The finding of this study showed that there is enhancement of knowledge on case group after responsive feeding education is given however there is no enhancement in attitude. While in control group does not experience an enhancement both knowledge and attitude after education is given.

Conclusion: Providing responsive feeding education can enhance mother's knowledge about good feeding on stunting babies although it requires education for more than 2 weeks for increasing mother's attitude in feeding of stunting babies.

1. Introduction

Stunting is world health problem which becomes an attention of Indonesia Government to be finished since stunting not only provide health impact in general but also economic impact in the country (Briend et al., 2015) faced in another country such as South Africa. Although there is an economic growth, politic and social transition, and national nutrition program, stunting becomes one of health problems in South Africa both in urban and rural area (Said-Mohamed et al., 2015).

Stunting increases death risk of the children due to the potential exposure to infectious disease, delays in cognitive and motoric development, and increases the risk of non-communicable diseases when adult. Consequently, it has an impact on low cognitive abilities in academic and reduces work productivity so that wages that is received is low. Therefore, it has an impact on the economic condition in a household (Onis & Branca, 2016). The poverty factor in household becomes reason of stunting due to the lack of access to clean water, low availability of latrines and shop for washing hands and poor access to household waste management (Torlesse et al., 2016).

Data from Basic Health Research 2018 showed that stunting cases in Indonesia have enhanced 1.3% since 2007 until 2018 (Riskesdas, 2018). Recently Indonesia becomes one of countries which has high prevalence stunting (30-38%) and in 2030 is expected Indonesia can reduce 50% of total stunting cases of children under 5 years old (UNICEF & WHO, 2020). The framework of WHO categorizes cause factors of stunting becomes 4 factors, namely household and family factor, inadequate complementary feeding (weaning food), as well as breastfeeding practice and infectious diseases (WHO, 2013).

Several factors related to stunting include the children do not have proper portion of food, household food insecurity and mothers do not have formal education (Lukman, 2021). The research conducted in Indonesia stated that household and family factor having role in stunting incidents is parent's education especially mother (Ratna Ningsih, 2019). The low education determines economic level of household, knowledge in practicing of providing complementary foods and breastfeeding practices. Children from farming households have higher risk of stunting than household with other occupations although they are involved in agriculture (Shilugu & Sunguya, 2019).

WHO provides guidelines in implementing responsive feeding in practicing of complementary feeding food (weaning food) because responsive feeding is not only process putting food into baby's mouth but also includes the method, place, and time of feeding. This concept applies the principal of psychosocial approach to the babies that can affect physical and mental development (UNICEF & WHO, 2020). This is in line with research which found that stunting baby aged <5 years old receives eating process with full of pressure and is dominated by parents so that there are a lot of refusal to eat (Dranesia et al., 2019). Responsive feeding practice is feeding abilities to the baby actively by pushing the children for responding hunger/ full in the body, pushing the children to focus on eating without distraction, and there is an interaction between babysitter and baby (Novitasari & Wanda, 2020). Research on undernourished area in Bangladesh was also found that the attitude of feeding with responsive feeding of children <3 years old can enhance children abilities to feed by themselves (Aboud et al., 2009). Mothers who implement responsive feeding have chance the children are not stunted compared to mothers who do not apply it (Kanasih, 2019). These research prove that responsive feeding practice is important because it can help stunting children to enhance nutritional intake through increasing food intake, improving motor skill through self-feeding excerices and achieve optimal nutritional status.

North Sulawesi Province becomes a province which has 31.4 stunting cases. Several effort is conducted by goverment to reduce the cases and in 2020, North Sulawesi has conducted assessing on performance of the convergence of stunting reduction interventions in locus district in North Sulawesi, one of which is North Minahasa Regency with total of 29.7% cases. In this assessment, North Minahasa Regency is ranked second after North Bolaang Mongondow Regency and requires more innovative interventions in reducing stunting cases. Education activity related to weaning food has been conducted through both Public Health Center and Integrated Healthcare Center however stunting cases have not achieved the national achievement of 20%. This is due to the lack of innovation in stunting handling. This background encourages researcher realated to responsive feeding education in the practice of giving weaning food to parents who have stunting babies.

2. Methods

2.1. Design and Subject

The research design was quantitative with experimental quasi approach. The research was conducted in Wori District, North Minahasa Regency on June 2021-March 2022. The population of this research was mothers who have stunting babies aged 12-36 months and sample selection used purposive sampling technique with inclusion criteria as follows: mothers who have toddler, live in

North Minahasa, have minimum education of elementary school, willing to be research respondent. Whereas exclusion criteria: babies who have health problems and mothers who do not live with the babies. The sampel of this study consisted of 11 people in case group and 7 people in control group.

2.2 Data Collection and Measurement

Variable in this research consists of:

1. Independent Variable, namely independent variable or influencing variable, in this research is feeding education on toddler in general to the control group, complemantary feeding education based on responsive feeding of the cases group.
2. Dependent Variable, namely the dependent variable or the affected, in this research the dependent variable as follows:
    a. Responsive feeding knowledge in feeding the toddler
    b. Responsive feeding practice in feeding the toddler

The data used in this research was primary and secondary data. The primary data was data obtained dfrom the respondent directly that was mothers who have toddler in North Minahasa Regency. The secondary data was height and weight data of the babies taken from Maternal and Child Health Book. For toddler who had not complete data so the researcher conducted height and weight measuarement by using baby weight and height device with SECA brand. The measurement were conducted 3 times after interview process.

Instrument which is used was questionnaire that includes knowledge and practice of responsive deeding in feeding. The arragement was conducted by referring to the WHO module on Questionnaire compiled based on the practice of the five principles of responsive feeding, as follows:

a. Feed directly or assist in eating
b. Feed slowly and patiently and encourage your child to eat
c. Utilize various strategies if a child refuses food
d. Feed child in a protected environment and
e. Feeding times are moments of learning and love.

Pre-test was conducted to the cases group and control group before providing education. Weaning food education and responsive feeding was provided to the cases group and weaning food education was provided to the control group in separate room. Pre-test was conducted 2 weeks after providing education. Pre-test and post test was conducted by interview and questionnaire and filled by researcher.

Knowledge was grouped become three categories, namely good (score ≥80%), enough (score 60-80%) and low (score <80%). Whereas practice was grouped become two answers, namely yes or no.

Validation and reliability tests were conducted before the questionnaire was used. Validation test was conducted outside the respondents, namely mothers with stunting baby aged 12-36 months in Manado City with the same inclusion criteria. The realibility test in this study was conducted by using Cronbach's Alpa test on the instrument which had been stated valid, by comparing r score of the result with the r table. The score of r table is Cronbach's Alpa score obtained. The instrument was declared reliable if the alpha score is at least 0.7.

2.3 Data Analysis

The analysis of this research used univariate and bivariate test. The test used was chi-square test with level of confidence $p<0.05$. Bivariate analysis conducted in this research was Independent Sample T-Test. The relationship was stated significant if the P-value <0.05 by using computer program. Normality test would be carried out by using Shapiro-Wilk test. The homogeneity test used parametric statistics, namely Paired sample t-test was used to compare pre-test and post-test knowledge in each group and independent sample t-test was investigate the effect of responsive feeding education on increasing knowledge and practice of weaning foods. The reading result by looking at the correct p-value > 0.05. The processing data was conducted by using SPSS software.

3. Results/Findings

1) Description of Respondent Demographics

This research involves 18 people which is divided into 11 people in cases group and 7 people in control group. The respondents who are observed are divided from several demographic characteristics by the results as follows.

Table 1. Characteristics Description of Respondents Based on Mother's Education

Variable	Group				Total	
	Cases		Control			
	N	*%*	*N*	*%*	*N*	*%*
Education						
Low	3	27.3	2	28.6	5	27.8
High	8	72.7	5	71.4	13	72.2
Occupation						
Does not work	9	81.8	6	85.7	15	83.3
Work	2	18.2	1	14.3	3	16.7
Child Gender						
Male	6	54.5	3	42.9	9	50.0
Female	5	45.5	4	57.1	9	50.0

source : data obtained

High education of mothers both in cases and control group when mothers take University education while low education is when mothers do not take university education. Based on the table above showed that 72.2% respondents have high education. 83.3% respondents are housewife and children studied in this research have the same total both male and female gender.

2) Research Variable Description

Table 2. Knowledge and Attitude After and Before Treatment

Variable	Group								Total			
	Cases				Control							
	Before		After		Before		After		Before		After	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*		
Knowledge												
Good	9	81.8	10	90.9	6	85.7	7	100.0	15	83.3	17	94.4
Enough	2	18.2	1	9.1	1	14.3	0	0	3	16.7	1	5.6
Low	0	0	0	0	0	0	0	0	0	0	0	0
Attitude												
Good	3	27.3	1	9.1	2	28.6	0	0	5	27.8	1	5.6
Enough	8	72.7	10	90.9	5	71.4	6	85.7	13	72.2	16	88.9
Low	0	0	0	0	0	0	1	14.3	0	0	1	5.6

Based on the result above showed that knowledge of cases and control group experiences a change after obtaining education but the attitude variable in feeding does not experience a change both cases and control group

Table 3. Result of Paired Sample t-test

Variable	Cases Group			Control Group		
	Mean	*t*	*Sig.*	*Mean*	*t*	*Sig.*
Attitude [pre test]	43.727	1.264	.235	40.571	.903	.401
Attitude [post test]	41.909			37.857		
Knowledge [pre test]	12.727	10.222	.000	14.571	.258	.805
Knowledge [post test]	15.636			14.429		

Attitude description before treatment obtained an average of 43.727 and after treatment obtained an average of 41.909 so that there is an enhancement of the average score of attitude in the cases group after being provided treatment. The result of the paired sample t-test is obtained t-count score of 1.264 with significant value of 0.235. This result showed that significant score is more 0.05 (sig>0.05), which means that there is no significant change in attitude in the case group after being given treatment.

Knowledge description before treatment is obtained an average of 12.727 and after treatment is obtained an average 15.636 so that there is an enhancement in the average score of knowledge in the cases group after being given treatment. The results of the paired sample t-test are obtained t-count score of 10.222 with significant score less than 0.05 (sig < 0.05), which means that there is a significant change in the enhancement of knowledge in the cases group after being given treatment.

Table 4. Independent Sample t-test

	Group	N	Mean	Stdev	t	Sig.
Attitude [pre test]	Cases	11	41.909	4.4374	1.734	.102
	Control	7	37.857	5.4292		
Knowledge [pre test]	Cases	11	15.636	.6742	2.854	.011
	Control	7	14.429	1.1339		

Independent sample t-test is used to investigate the comparison between cases and control group on attitude and knowledge. Attitude description of cases group is obtained an average 41.909 and the control group is obtained an average 37.857 so that the average attitude of case group is higher than control group. The result of independent sample t-test is obtained t-count score of 1.734 with significant score of 0.102. These results showed that significant score is more than 0.05 (sig > 0.05), which means that there is no significant difference in attitude between cases group and control group.

Knowledge description of cases group is obtained an average of 15.635 and the control group is obtained an average of 14.429 so that the average knowledge of cases group is higher than control group. The result of independent sample t-test is obtained t-count score of 2.854 with significant score of 0.011. These results showed that significant score less than 0.05 (sig < 0.05), which means that there is a significant difference in knowledge between the cases and control group.

4. Discussion

1) Knowledge

Feeding of toddler is started since 6 months, this is related to the ripening of the digestive organs which are ready to receive food. Before WHO implements feeding can be started since 4 months however the research showed that the incidence of diarrhea and health problem enhance so that WHO extends duration of breastfeeding until 6 months and babies are ready to receive food of that age. WHO recommends feeding is provided 2-3 times in a day within 6-8 months, increase becomes 3-4 times in a day within 9-11 months and additional snack 1-2 times when stepping on 12-24 months (WHO, 2016).

Feeding does not only know the age but also there are 5 principles that must be implemented, namely on time, adequate calories and nutrients, safe and hygienic and given responsively. Besides that, parents also must see the readiness children physically, one of them is able to sit straight without being helped by someone else (Gosdin et al., 2018). All this time, information about feeding babies and toddlers focus on 4 principles but has not emphasized responsively (Sartika et al., 2021). The importance of providing education about responsive feeding is to enhance food intake in children and affect nutritional status (Vaivada et al., 2020). The low prevalence of underweight and stunting children are found in mothers who has good knowledge about nutrition and child feeding (Omaghomi et al., 2016).

In this research mothers of cases and control group experience knowledge enhancement after being provided education about responsive feeding although it is not that much of a difference. The research conducted in Ethiopia showed the significant difference of knowledge change on feeding of babies and toddlers in both groups taking times 6 months. This knowledge provides effect on food supply and height of babies (Negash et al., 2014). Knowledge in this research in the form of responsive feeding principles include feed directly or assist in eating, feed slowly and patiently and encourage your child to eat, utilize various strategies if a childen refuses food, feed child in a protected environment, feeding times are moments of learning and love (Prendergast, A. J., Humphrey, 2014). The research conducted in *Gunung Kidul* feeding of stunting babies showed that babysitter's knowledge in pushing child to eat by own self provide an effect of eating process on children (Ngaisyah & Avianty, 2020). The knowledge enhancement of feeding provides significant effect toward feeding practice of babies aged 9-16 months. Babies gets more food with enough nutrition

according to age (Fahmida et al., 2015). This is not in line with previous review research that has been conducted that stunting can be intervened not only with giving food education but also giving education to thr mother when pregnant, in addition it is also additional supplement for enhancing height of children (Imdad et al., 2011).

2) Attitude

The result of this research showed that after being given education about responsive feeding, the cases group does not face attitude enhancement in feeding responsively, there iso different from control group. Providing education can give effect of practice in feeding after being given intervention during 6 months routinely (Berhe et al., 2019; Negash et al., 2014). This is what causes in this research does not experience attitude change significantly because intervention feeding is only 2 weeks (Kang et al., 2018). Different from the other researches showed that stunting prevalence of children is significantly lower on mothers who receive education in the form of nutritional counseling personally. The research showed that nutritional counseling has positive role in enhancing several practices of feeding to the toddlers optimally (Mistry et al., 2019). The other researches had showed that the achievement of optimal nutrition on early childhood most of them depend on optimal feeding practice to the baby and children (Omaghomi et al., 2016). The attitude which is applied in responsive feeding includes feed directly or assist in eating, feeding slowly and patiently and encourage your child to eat), utilize various strategies if a child refuses food, feed child in a protected environment, feeding times are moments of learning and love.

Mothers' practice in responsive feeding in this research is still low. The food supply of stunting child is low. Offering another food or with threat becomes one of ways that is often carried out by parents to overcome the food refusal. Stunting child's babysitter has a bad practice complementary feeding and breastfeeding and the lack of responsive toward sign of hunger and satiety of the children (Abebe et al., 2017).

In this research mothers have had knowledge that feeding is a chance of children to eat by themselve is good because it can affect gross and fine motoric development of the children. However in the implementation mothers feel difficult. This factor is caused because emotional factor of mothers as parent who have stunting children such as mothers feel poor for food because children are still messy when eating, mothers find difficult when they have to clean up scattered food, especially if the mother only lives alone at home without the help of other families. In line with research in Ethiopia showed that mother's difficulty in giving opportunity to the child for eat by own self because the limitation time because mothers do domestic work (Gebeyehu et al., 2017). Whereas giving opportunity to the child for eating by own self can enhance motoric abilities and train the desire to eat healthy food in the long term (Abebe et al., 2017).

Mothers feel worry if child eats by own self, the food supply will be less so that the child weight will decrease, especially if the nutritional status of the child is included in the stunting category. Since giving birth, mothers' attention to the child's weight is great so that it highly affects mothers' strategy in feeding (Kavurma et al., 2018). In this research showed that mothers still try to provide food when children refuse to eat, this is in line with qualitative research conducted that babysitter feels distrustful if the child does not want to eat anymore so that babysitter offers food such as persuading children to eat one more bite with excuse that the children can increase muscle mass of children (Fallon et al., 2018; Tovar et al., 2016).

The lack of patience makes mothers less able to provide opportunities for children to eat by own self. The children's abilities to eat by own self can train the signal of fullness and hunger in children. For parents who have stunting children, they have a desire that the child's food supply can be fulfilled properly so that children are no longer stunned. Many ways are conducted especially mothers so that the children want to eat such as giving gadget or television while eating. In line with the research conducted that mothers' attention to the child's weight is extremely big after the child is born so that it greatly influences mothers' strategy in feeding (Kavurma et al., 2018). Actually giving gadget should not be conducted because the children are not aware of the eating process which can cause other eating behavior disorders. The research that had been done showed that 61% of families studied in Minneapolis St. Paul have a habit of using electronic devices during meals (Berge et al., 2014). Futhermore, parents also often provide sweet food as a form of lure when children want to finish the food. Giving food as a reward can trigger children to eat not because of the body's needs. This is also in contrast to the implementation of healthy diet. The children are asked to eat healthy food but the

food reward given is not included in healthy food, for example, children are asked to eat vegetables with the lure of ebing able to eat the favourite cake (Tovar et al., 2016). The eating pattern of babysitter in daycare for toddlers is using food to control emotion by 96.5%, the babysitter provide food to relieve children's anger or sadness and make food as a reward or present 97.6%, other things that babysitter carries out are also promising other foods so that the children want to finish the food by 85.9% (Fallon et al., 2018).

5. Conclusion

Provide a statement that what is expected, as stated in the "Introduction" chapter can ultimately result in "Results and Discussion" chapter, so there is compatibility. Moreover, it can also be added the prospect of the development of research results and application prospects of further studies into The importance of good feeding becomes part of enhancement in nutritional status in children. Education becomes one of ways which is conducted in improving knowledge and attitude although for knowing attitude change takes long time and accompaniment routinely. It is hoped that in the future this research can be developed by investigating effectiveness assistance from health workers/ experts in feeding so that stunting children get the right intake and method of feeding.

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References

Abebe, Haki, & Baye. (2017). Child feeding style is associated with food intake and linear growth in rural Ethiopia. *Appetite*, *116*(1), 132–138. https://doi.org/10.1016/j.appet.2017.04.033

Aboud, Shafique, & Akhter. (2009). A responsive feeding intervention increases children's self-feeding and maternal responsiveness but not weight gain. *Journal of Nutrition*, *139*(9), 1738–1743. https://doi.org/10.3945/jn.109.104885

Berge, Rowley, Trofholz, Hanson, Rueter, MacLehose, & Neumark-Sztainer. (2014). Childhood obesity and interpersonal dynamics during family meals. *Pediatrics*, *134*(5), 923–932. https://doi.org/10.1542/peds.2014-1936

Berhe, Legese, Gebrewahd, Gebremariam, Tesfay, Kahsu, Negash, & Adhanom. (2019). Prevalence Of Anemia And Associated Factors Among Pregnant Women In Adigrat General Hospital, Tigrai, Northern Ethiopia, 2018. *Bmc Research Notes*, *12*(1), 310. https://doi.org/10.1186/S13104-019-4347-4

Briend, Khara, & Dolan. (2015). Wasting and stunting-similarities and differences: Policy and programmatic implications. *Food and Nutrition Bulletin*, *36*(1), S15–S23. https://doi.org/10.1177/15648265150361S103

Dranesia, Wanda, & Hayati. (2019). Pressure to eat is the most determinant factor of stunting in children under 5 years of age in Kerinci region, Indonesia. *Enfermeria Clinica*, *10*(1), 10–20. https://doi.org/10.1016/j.enfcli.2019.04.013

Fahmida, Kolopaking, Santika, Sriani, Umar, Htet, & Ferguson. (2015). Effectiveness in improving knowledge, practices, and intakes of "key problem nutrients" of a complementary feeding intervention developed by using linear programming: Experience in Lombok, Indonesia. *American Journal of Clinical Nutrition*, *101*(3), 455–461. https://doi.org/10.3945/ajcn.114.087775

Fallon, Halloran, Gorman, Ward, Greene, & Tovar. (2018). Self-reported and observed feeding practices of Rhode Island Head Start teachers: Knowing what not to do. *Appetite*, *120*(1), 310–317. https://doi.org/10.1016/j.appet.2017.09.009

Gebeyehu, M. B., Mekuria, A. B., Tefera, Y. G., Andarge, D. A., Debay, Y. B., Bejiga, G. S., & Gebresillassie, B. M. (2017). Prevalence, Impact, and Management Practice of Dysmenorrhea among University of Gondar Students, Northwestern Ethiopia: A Cross-Sectional Study. *International Journal of Reproductive Medicine*, *2017*, 1–8. https://doi.org/10.1155/2017/3208276

Gosdin, Martorell, Bartolini, Mehta, Srikantiah, & Young. (2018). The co- occurrence of anaemia and stunting in young children. *Maternal & Child Nutrition*, *14*(3). https://doi.org/10.1111/mcn.12597

Imdad, Yakoob, & Bhutta. (2011). Impact of maternal education about complementary feeding and provision of complementary foods on child growth in developing countries. *BMC Public Health*, *11*(3), S25--S25.

Kanasih. (2019). Potensi Responsive Feeding Dan Asupan Makronutrien Terhadap Kejadian Stunting Pada Etnik Muna Di Batalaiworu, Sulawesi Tenggara. *Buletin Penelitian Sistem Kesehatan*, 26–37.

Kang, Y., Aguayo, M., V., Campbell, R. K., & West, K. P. (2018). *Association between stunting and early childhood development among children aged 36–59 months in South Asia. Maternal & Child Nutrition*. *14*(4). https://doi.org/10.1111/mcn.12684

Kavurma, Bayram, Özbek, & Hız. (2018). 'My Child Doesn't Eat!'; Parental Feeding Strategies, Parental Attitudes and Family Functioning of Children with Poor Appetite. *The Journal of Basic and Clinical Health Sciences*, *February*, *1*(1). https://doi.org/10.30621/jbachs.2018.275

Lukman. (2021). Responsive Prediction Model of Stunting in Toddlers in Indonesia. *Nutrition and Food Science Journal*, *10*(1).

Mistry, Hossain, & Arora. (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), 1–9. https://doi.org/10.1186/s12937-019-0473-z

Negash, Belachew, Henry, Kebebu, Abegaz, & Whiting. (2014). Nutrition education and introduction of broad bean-based complementary food improves knowledge and dietary practices of caregivers and nutritional status of their young children in Hula, Ethiopia. *Food and Nutrition Bulletin*, *35*(4), 480–486. https://doi.org/10.1177/156482651403500409

Ngaisyah, & Avianty. (2020). The Implementation of Complimentary Food on Stunted Children. *Muhammadiyah Medical Journal*, *1*(1), 1. https://doi.org/10.24853/mmj.1.1.1-9

Novitasari, & Wanda. (2020). Maternal feeding practice and its relationship with stunting in children. *Pediatric Reports*, *12*(1). https://doi.org/10.4081/pr.2020.8698

Omaghomi, Jemide, Nkechi, Ene-Obong, Edet, E., Udoh, E., & Jemide, J. O. (2016). Association of maternal nutrition knowledge and child feeding practices with nutritional status of children in Calabar South Local Government Area, Cross River State, Nigeria. ~ 293 ~. *International Journal of Home Science*, *2*(1), 293–298.

Onis, & Branca. (2016). Childhood stunting: A global perspective. *Maternal and Child Nutrition*, *12*(1), 12–26. https://doi.org/10.1111/mcn.12231

Prendergast, A. J., Humphrey, J. H. (2014). *The stunting syndrome in developing countries. Paediatrics and International Child Health*. *34*(4), 250–265. https://doi.org/10.1179/2046905514Y.0000000158

Ratna Ningsih, F. F. (2019). Hemoglobin concentration is correlated with Low Birth Weight Babies (LBWB). *Journal of Health Technology Assessment in Midwifery*, *2*(2).

Riskesdas. (2018). (RISKESDAS)Mathematical and Theoretical. *Journal of Physics A: Mathematical and Theoretical*, *44*(8), 1–200. https://doi.org/10.1088/1751-8113/44/8/085201

Said-Mohamed, Micklesfield, Pettifor, & Norris. (2015). Has the prevalence of stunting in South African children changed in 40 years? A systematic review. *BMC Public Health*, *15*(1). https://doi.org/10.1186/s12889-015-1844-9

Sartika, R., Ismail, D., & Rosyida, L. (2021). Factors that affect cognitive and mental emotional development of children: a scoping review. *Journal of Health Technology Assessment in Midwifery*, *4*(1), 1–6.

Shilugu, & Sunguya. (2019). Stunting in the Context of Plenty: Unprecedented Magnitudes Among Children of Peasant's Households in Bukombe, Tanzania. *Frontiers in Nutrition*, *6*(1). https://doi.org/10.3389/fnut.2019.00168

Torlesse, Cronin, Sebayang, & Nandy. (2016). Determinants of stunting in Indonesian children: Evidence from a cross-sectional survey indicate a prominent role for the water, sanitation and hygiene sector in stunting reduction. *BMC Public Health*, *16*(1), 1–12. https://doi.org/10.1186/s12889-016-3339-8

Tovar, Vaughn, Fallon, Hennessy, Burney, Ostbye, & Ward. (2016). Providers' response to child eating behaviors: A direct observation study. *Appetite*, *105*(1), 534–541. https://doi.org/10.1016/j.appet.2016.06.020

UNICEF, & WHO. (2020). Levels and trends in child malnutrition. *Jme-2020-Edition*, *24*(2), 51–78. https://doi.org/10.18356/6ef1e09a-en

Vaivada, Akseer, Akseer, Somaskandan, Stefopulos, & Bhutta. (2020). Stunting in childhood: An overview of global burden, trends, determinants, and drivers of decline. *The American Journal of Clinical Nutrition*, *12*(2), 72–79. https://doi.org/10.1093/ajcn/nqaa159

WHO. (2013). *Childhood Stunting: Context, Causes and Consequences WHO Conceptual Framework*. https://www.who.int/Nutrition/Events/2013_ChildhoodStunting_colloquium_14Oct_ConceptualFramework_colour.Pdf.

WHO. (2016). *WHO | Health systems*. http://www.who.int/topics/health_systems/en