

MP-ASI innovation emo-demo education to increase knowledge of pregnant mothers, breastfeeding mothers, and mothers of toddlers in Lokus Stunting Village, Gowa Regency

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ABSTRACT

Stunting is one instance of a failure to thrive owing to chronic malnutrition in children under five (babies under five years old). This condition is characterised by a height (TB) that is not adequate for age based on the Z-index score calculation indicator Height according to Age (TB/U zscore). Increased understanding, attitudes, and behaviour about MP-ASI innovation is the goal of this community service project for mothers under five, nursing moms, and pregnant women in Pakatto Village, Je'nemadinging, Pacellekang Village, and Panaikang Village as Locus Villages. Stunting in 2022 in Gowa Regency. Over the course of a three-week intervention, lectures, conversations, and hands-on cooking and learning activities were the mode of instruction. The Wilcoxon test was employed for data analysis. The findings showed that, in Pakatto village (P-value = 0.011) and Pacellekang (P-value = 0.011), there were differences in the knowledge of expectant mothers, nursing mothers, and mothers of toddlers before and after the MP-ASI innovation demonstration education. In the meanwhile, there was no difference in the pre- and post-MP-ASI innovation demonstration education knowledge of expectant mothers, nursing mothers, and mothers of toddlers in the villages of Je'nemadinging and Panaikang (P-value > 0.05). In order to attain even better outcomes, further empowerment initiatives must be implemented.



KEYWORDS

Complementary foods for breast Milk
Emo-demo
Food innovation
Stunting



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1. Introduction

Indonesia continues to struggle with severe nutritional issues, as seen by the high percentage of malnutrition cases among school-age children and children under five, particularly in cases of malnutrition. Stunting is a condition in which children under five (babies under five years old) fail to flourish as a result of chronic malnutrition [1], [2]. This condition is characterised by a height (TB) that is not adequate for age based on the Z-index score calculation indicator [3], height based on age (TB/U) and starts to show up once the child turns two years old. It was said that if the TB/U Z-index score is less than -2 SD (standard deviation), it is striking. This has to do with inadequate nourishment that has existed from the First 1,000 Days of Life (HPK), poor nutrition experienced by mothers during pregnancy, and many factors from various other fields. Based on the Indonesian Nutrition Status Survey in 2021, the prevalence rate of stunting in Indonesia is still high, namely 24.4%. Meanwhile, according to Basic Health Research (Riskesdas) in 2018, the prevalence of stunting to baduta in Gowa Regency which consists of stunted (short) namely 50.79% and severely stunted (very short) namely 29.02%. Meanwhile, it is known that the WHO threshold is only 20% and the Plan's objective in 2024, the government projects a 14% National Medium Term Development (RPJMN). Prolonging short-term effects may include harm to brain development issues, cognitive impairments, physical growth disorders, and body metabolic

abnormalities. Long-term negative effects include a higher chance of acquiring diabetes, obesity, heart and blood vessel disease, cancer, stroke, and disability in old age, as well as a decline in cognitive capacities and learning accomplishment and immunity, making individuals more susceptible to illness. As a result, Indonesia's productivity, human resource quality, and level of national competitiveness would all decline [4]. This demonstrates the continued necessity for several initiatives to stop and lower the incidence rate of stunting.

Future generations' well-being is seriously threatened by the effects of stunting on child morbidity and mortality as well as adverse effects on long-term intellectual growth and development [5]–[7]. According to estimates from the World Health Organisation (WHO), 148.1 million children under the age of five will have stunting, 45 million will have wasting, and 37 million will be overweight in 2022. This number represents a troubling worldwide reality, as projections of stunting rates rise year [8]. Stunting can cause brain development problems in children, resulting in them not thinking critically and creatively [9]–[14]. The essence of stunting is not only a problem of a child's height but also has an impact on the development of brain cells which will ultimately cause the level of intelligence to become suboptimal and reduce productivity. Nutritional problems will lead to infectious disease problems, making it even more difficult to eradicate infectious diseases [15], [16].

Factors that cause risk among other things, low birth weight has a significant correlation to the incidence of stunting in children [17]–[19], low maternal knowledge, inappropriate parenting styles, low family economic status, and poor sanitation are the main factors in the risk of children experiencing stunting [20]–[22]. Attempts to avoid Stunting this can be achieved in a number of ways, including by giving the child only breast milk, feeding them nourishing food that is tailored to their needs, encouraging physical activity, acclimating them to a clean lifestyle, balancing their energy intake and nutrient intake, and routinely monitoring their growth and development. Providing MP-ASI aims to provide complementary nutrients as the child's age increases and breast milk consumption decreases [23]. Children's growth is also accompanied by an increase in nutritional requirements, so MP-ASI is needed to complete it. Apart from that, MP-ASI also aims to develop children's ability to accept a variety of foods with various tastes and shapes in order to improve the baby's ability to chew, swallow and adapt to new foods [24]. Therefore, intervention plays the most important role in reducing prevalence Stunting is in the ability and skills in providing MP-ASI so that the nutritional intake consumed is sufficient for children.

The process of activities to increase knowledge and behavior regarding prevention stunting accompanied by a strategy for providing good MP-ASI, namely through health promotion, stunting prevention and processing of the MP-ASI menu using local ingredients, succeeded in increasing the knowledge of the mother group regarding Stunting and Balanced MP-ASI through counseling and assistance to partners [25].

Education emo-demo is one type of education that uses the most effective methodology. A nutritional education technique called emotional demonstration, or "Emo-Demo," tries to alter behaviour by addressing the target or targets' emotions. Pregnant women and nursing mothers are the intended audience in this case. Emo-Demo is a novel way to public education that makes theoretical references. The tenet of behavior-centered design (BCD) is that changes in behaviour may only occur in response to novel, difficult, unexpected, or fascinating stimuli. Emo-Demo is a behavior change communication strategy that also uses incorporation Behaviour Communication Change (BCC) is an interactive process between individuals, groups or communities in developing communication strategies to achieve positive behavior change [26]. Education emo-demo related to MP-ASI innovation, it focuses on providing material related to MP-ASI management.

The innovation in question is interpreted as an idea, practice or object that is recognized and accepted as new by a person or group for adoption. Innovation is essentially the result of brilliant thinking which is characterized by something new, which can be in the form of certain practices or in the form of products resulting from thought and technology applied through certain stages. This is intended to solve problems that arise and improve certain conditions or certain processes that occur in society. This is intended as a form of education regarding MP-ASI management. According to the Complementary Foods for Breast Milk (MP-ASI) guide from World Health Organization (WHO), MPASI should not be given to people aged more than 6 months. In addition to having a ready and developed digestive system, newborns at this age also have larger nutritional demands. For them to keep moving and growing, they must continue

consuming food. It is feared that inadequate nourishment would affect the baby's growth and development if MP-ASI is administered too late. In accordance with Dr. Annisa Karnady, the WHO's MP-ASI must comprise: feedings occur twice a day at the start of MP-ASI at six months of age; The frequency of MP-ASI is three times at the age of six to nine months. Offer biscuits or ripe fruit as a snack one or two times each day; When a child is between 9 and 11 months old, MP-ASI frequency is administered. Give snacks 1-2 times a day; At the age of 12-24 months, the frequency of eating is given 5 times a day and also additional snacks [27].

The aim of this community service is to increase knowledge, attitudes and behavior regarding MP-ASI innovation for pregnant women, breastfeeding mothers and mothers of toddlers in Lokus Village. Stunting Gowa, namely in Pakkato Village, Bontomarannu District, Je'nemadinging Village, Pacellekang Village, and Panaikang Village, Pattallassang District, Gowa Regency, South Sulawesi as a form of contribution and active participation of students in Hasanuddin University Thematic Real Work Lectures in an effort to take joint action to prevent Stunting.

2. Method

This community service activity was carried out in Pakkato Village, Bontomarannu District, Je'nemadinging Village, Pacellekang Village, and Panaikang Village, Pattallassang District, Gowa Regency, South Sulawesi as Locus Villages Stunting which was carried out in various different places starting from the village office hall, village head's house, human development cadre's house, posyandu, and at posyandu cadre's house. The activities carried out involve many parties including students, lecturers, community health center officers, posyandu cadres, human development cadres, village officials as facilitators and educators, as well as pregnant women, breastfeeding mothers and toddler mothers with a total of thirty people as the target audience. .

The method of activity carried out is in the form of lectures, discussions, and practice of learning games and cooking. Activity Emo-Demo three repeated sessions held once a week for three weeks for two hours and focused on providing information about complementary foods for breast milk. Not only delivering the material orally, the target audience is also asked to join in practicing the game Emo-Demo and an innovative menu based on local food ingredients. This aims to arouse the emotions of the target so that they can change their attitude in a positive direction as expected. Module Emo-Demo has been equipped with the necessary materials, game procedures, time required, and other additional information. This module will be a reference in implementing it Emo-Demo.

Assessment of indicators for the level of knowledge, attitudes and behavior of targets is carried out by providing pre-test and post-test using questionnaires/observation lists on pregnant women, breastfeeding mothers, and mothers of toddlers for each session before and after emo-demo held. The data obtained was then presented in tabular form and then analyzed computerized using SPSS 25. Analysis of data obtained from service activities was analyzed using a test Wilcoxon. This test was used to determine whether there was a difference in the level of knowledge before and after implementing MP-ASI innovation education for pregnant women, breastfeeding mothers and mothers of toddlers in Lokus Village. Stunting Gowa.

3. Results and Discussion

3.1. Results

The distribution of respondents who took part in MP-ASI innovation demonstration educational activities based on age is presented in the following Table 1.

Table 1. Distribution of MP-ASI Innovation Emo-Demo Education Respondents in Gowa Regency Based on Age Characteristics

Age	n	%
20-30	22	73%
31-40	8	27%
Amount	30	100

Based on the data in Table 1, it is known that there were 30 respondents, predominantly aged 20-30 years with 22 respondents and 8 respondents aged 31-40 years. Based on job characteristics, the distribution of respondents who took part in educational innovation demonstration activities is presented as in the following Table 2.

Table 2. Distribution of MP-ASI Innovation Emo-Demo Education Respondents in Gowa Regency Based on Job Characteristics

Work	n	%
Housewife	30	100%
Amount	30	100

Based on the data in Table 2, it is known that respondents work as housewives with a percentage of 100%. The distribution of respondents who took part in MP-ASI innovation demonstration educational activities by village is presented as in the following Table 3.

Table 3. Distribution of Respondents for MP-ASI Innovation Emo-Demo Education in Gowa Regency

Village	n	%
Pakatto	8	27
Je'nemadinging	13	43
Pacellekang	5	17
Panaikang	4	13
Amount	30	100

Based on the data in Table 3, it is known that the most respondents were in Je'nemadinging village, numbering 13 respondents and the fewest respondents were in Panaikang village, namely 4 respondents. The data on the average distribution of knowledge before and after the MP-ASI innovation demonstration education can be seen in the following Table 4.

Table 4. Average Distribution of Knowledge of Pregnant Mothers, Breastfeeding Mothers, and Mothers of Toddlers Before and After Emo-Demo for the sake of MP-ASI Innovation Education in Gowa Regency

Village	Average Knowledge	Average Knowledge After	Difference	Percentage Difference
Pakatto	6,4	7,8	1,4	17
Je'nemadinging	6,3	6,5	0,2	2
Pacellekang	4,8	8,0	3,2	40
Panaikang	5,7	8,0	2,3	28
Average	5,8	7,5	1,7	21,7

Based on Table 4, it is known that the average knowledge of respondents before education obtained a value of 5.8 and after education obtained an average value of 7.5. The average difference between respondents' average scores before and after education was 1.7 with an increase in scores between before education and after education of 21.7%. Next, bivariate analysis was carried out using the Wilcoxon test and obtained the following results in Table 5.

Table 5. Knowledge of Pregnant Women, Breastfeeding Mothers, and Mothers of Toddlers Before and After MP-ASI Innovation Emo-Demo Education in Gowa Regency

Village	P Value ^{a)}
Pakatto	0,011
Je'nemadinging	0,248
Pacellekang	0,041
Panaikang	0,066

^{a)} Wilcoxon Test Results of Knowledge of Pregnant Mothers, Breastfeeding Mothers, and Mothers of Toddlers Before and After MP-ASI Innovation Emo-Demo Education in Gowa Regency

Based on Table 5, the results showed that there were changes in the knowledge of pregnant mothers, breastfeeding mothers and mothers of toddlers between before and after the MP-ASI innovation demonstration education in Pakatto and Pacellekang villages (P Value <0.05) with the Wilcoxon test results respectively obtaining results of 0.011 and

0.041. Meanwhile, in the villages of Je'nemadinging and Panaikang there was no change in the knowledge of pregnant women, breastfeeding mothers and mothers of toddlers between before and after the MP-ASI innovation demonstration education (P Value <0.05) with the respective Wilcoxon test results obtained. 0.248 and 0.066.

3.2. Discussion

MP-ASI is a complementary food for breast milk which is given when the child is 6 months old. This is because there are several risks that can occur if MP-ASI is given too early. One of them is that the digestive tract which is not yet perfect will work extra hard to process solid food so that it can cause indigestion. On the other hand, if MP-ASI is given too slowly it can cause the child's nutritional needs not to be met. This has the risk of disrupting children's growth and development, including their intelligence. Providing MP-ASI too late can also cause babies to reject MP-ASI because they are not used to solid food.

The benefit of MP-ASI is that it aims to train and get babies used to consuming food that contains the nutrients their bodies need as they get older. Apart from that, MP-ASI also helps develop the baby's ability to chew and swallow food. Education Emo-Demo MP-ASI Innovation in Je'nemadinging Village and Pacellekang Village as show in Fig. 1.



Fig. 1. (a). Education Emo-Demo MP-ASI Innovation in Je'nemadinging Village; (b). Education Emo-Demo MP-ASI Innovation in Pacellekang Village

Educational activities through MP-ASI innovation demonstrations were carried out in 2 meetings targeting pregnant women. The first meeting was about education about pregnancy and nutrition related to anemia using fact or myth cards. This education begins with a brief introduction from the presenters, namely KKN participants, and creates an atmosphere with targets. Before delivering the material, pre-test questionnaire sheets were distributed to activity participants. After distributing the pre-test questionnaire, it was continued with providing material through a learning game, namely facts/myths. Each participant was given one fact or myth card, then the instructor read a statement and asked the participants to raise the fact/myth card according to the answer they considered correct. After the education session was completed, pregnant women were given a post-test questionnaire again to measure changes in knowledge

after providing education. Education Emo-Demo MP-ASI Innovation in Pakkato Village and Panaikang Village as show in Fig. 2.



Fig. 2. (a). Education Emo-Demo MP-ASI Innovation in Pakkato Village; (b). Education Emo-Demo MP-ASI Innovation in Panaikang Village

The second meeting held a cooking demonstration with 3 innovative local food menus that are high in iron and protein content as foods to prevent stunting. The menu demonstrated was steamed tempeh sponge cake, jelly spinach, and moringa spinach cendol. Before the cooking demonstration begins, participants are given a cooking guide recipe book. Then a cooking demonstration was carried out by the committee while providing education on each food used, especially the use of Moringa leaves in making cendol.

Based on Table 1, the number of respondents who took part in this activity was 30 respondents with responses from each village of Pakatto, Je'nemadinging, Pacellekang, and Panaikang respectively being 8 people, 13 people, 5 people, and 4 respondents. The largest number of respondents were in Je'nemadinging village with 13 respondents with a percentage of 43%. Meanwhile, the fewest respondents were in Panaikang village, namely 4 respondents with a percentage of 13%.

In Table 2, it can be seen that the average knowledge of respondents before and after education has increased. The average knowledge of respondents before education was 5.8, while the average knowledge of respondents after education increased to 7.5. The most significant increase in respondents' knowledge was seen in the knowledge of respondents in Pacellekang village with an increase of 3.2 or a 40% increase from the knowledge before the education was carried out. The least increase in respondents' knowledge was in Je'nemadinging village with an increase in knowledge of 0.2 or an increase of 2% from the respondents' knowledge before education.

Furthermore, bivariate analysis was carried out using the Wilcoxon test and the results obtained were as shown in Table 3. Where there was a significant increase in respondents' knowledge in Pakatto and Pacellekang villages with a P value for each village of 0.011 and

0.041 (P Value <0.05). This means that there are differences in the level of knowledge of pregnant women, breastfeeding mothers, and young mothers between before and after education. Meanwhile, in the other two villages, namely Je'nemadinging and Panaikang villages, there was no significant increase in respondents' knowledge. This can be seen from the test results which obtained results of 0.248 and 0.066 (P Value <0,05).

Mother's knowledge about MP-ASI and the incidence of stunting, there is a significant relationship between mother's knowledge and stunting, where mother's knowledge of nutrition has an impact on the

mother's parenting style towards her child. Mothers with poor nutritional knowledge tend to pay less attention to the food intake given to their children, so that children are likely to become malnourished and end up becoming stunted children. This can be a reflection that the mother's level of knowledge regarding nutrition really supports the child's development and growth. Where in practice mothers are required to understand what factors cause the tendency to stunting. So it can provide exact nutritional needs according to treatment. The results of each table explained in [Table 1](#) are said to be successful, the average knowledge before and after the Emo-Demo MP-ASI innovation education was 100% of the total number of respondents: 30 people from Je'nemadinging village, 4 people from Panai kang village, 5 people from Pacellekang Village and 8 people from Pakkatto Village, [Table 2](#) explains that the average knowledge of respondents before education obtained a value of 5.8 and after education obtained an average value of 7.5 from before education and after education it was 21% and so on. Bivariate analysis was carried out in [Table 3](#) with the Wilcoxon test results respectively obtaining 0.248 and 0.066. It can be linked to the journal research obtained and In line with Eko Heryanto's research on factors related to complementary breastfeeding, there is a significant relationship between knowledge respondents who gave early MP-ASI where respondents who had less knowledge were given early MP-ASI as many as 16 people (64%) and respondents who had good knowledge and gave early MP-ASI were 7 people (26.9) so the mother's knowledge of giving There is a close relationship between MP-ASI.

The results of the research show that there is a relationship between knowledge and providing complementary breast milk, where mothers with good knowledge tend to provide complementary breast milk according to age than mothers who have less knowledge. Complementary foods are given to mothers when the baby is 6 months old because before the age of 6 months the baby only needs breast milk because the baby's digestion is only able to digest breast milk. The better a person's knowledge of eating, the more likely they are to provide complementary breast milk food according to age.

4. Conclusion

Providing education on MP-ASI innovation demonstrations has increased the knowledge of pregnant women, mothers of toddlers and mothers of toddlers in Lokus Stunting Village, Gowa, between before and after the intervention. This community service effort in the form of Thematic KKN has gone smoothly and has proven that there is an influence between knowledge and the provision of complementary foods for breast milk so that further empowerment efforts need to be carried out so that more optimal results can be achieved in the future.

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References

- [1] M. N. Tang, S. Adolphe, S. R. Rogers, and D. A. Frank, "Failure to Thrive or Growth Faltering: Medical, Developmental/Behavioral, Nutritional, and Social Dimensions," *Pediatr. Rev.*, vol. 42, no. 11, pp. 590–603, Nov. 2021, doi: [10.1542/pir.2020-001883](https://doi.org/10.1542/pir.2020-001883).
- [2] R. Jayanti, G. P. Yanuaringsih, N. Olivia, K. Jundapri, S. Ariandini, and R. Munir, "Determinants of Stunting in Indonesian Toddlers," *Indian J. Forensic Med. Toxicol.*, vol. 15, no. 3, pp. 3954–3959, May 2021, doi: [10.37506/ijfmt.v15i3.15914](https://doi.org/10.37506/ijfmt.v15i3.15914).
- [3] A. W. Rahayu, "Maternal Factors and Their Effects on Stunting in Indonesia," in *Proceedings of the 2nd International Conference on Strategic and Global Studies (ICSGS 2018)*, 2019, vol. 365, no. Icsgs 2018, pp. 131–139, doi: [10.2991/icsgs-18.2019.18](https://doi.org/10.2991/icsgs-18.2019.18).
- [4] K. Astarani, D. N. T. Idris, and A. R. Oktavia, "Prevention of Stunting Through Health Education in Parents of Pre-School Children," *Str. J. Ilm. Kesehat.*, vol. 9, no. 1, pp. 70–77, May 2020, doi: [10.30994/sjik.v9i1.270](https://doi.org/10.30994/sjik.v9i1.270).

- [5] E. B. Schneider, "The determinants of child stunting and shifts in the growth pattern of children: A long-run, global review," *J. Econ. Surv.*, p. 490, Oct. 2023, doi: [10.1111/joes.12591](https://doi.org/10.1111/joes.12591).
- [6] J. L. Leroy and E. A. Frongillo, "Perspective: What Does Stunting Really Mean? A Critical Review of the Evidence," *Adv. Nutr.*, vol. 10, no. 2, pp. 196–204, Mar. 2019, doi: [10.1093/advances/nmy101](https://doi.org/10.1093/advances/nmy101).
- [7] R. Aryeetey, A. Atuobi-Yeboah, L. Billings, N. Nisbett, M. van den Bold, and M. Toure, "Stories of Change in Nutrition in Ghana: a focus on stunting and anemia among children under-five years (2009 – 2018)," *Food Secur.*, vol. 14, no. 2, pp. 355–379, Apr. 2022, doi: [10.1007/s12571-021-01232-1](https://doi.org/10.1007/s12571-021-01232-1).
- [8] "Stunting," *World Health Organization (WHO)*, 2022. [Online]. Available at: <https://www.who.int/data/nutrition/tracking-tool/stunting>.
- [9] N. I. Abdi, J. Mapesa, and J. Meme, "Effect of Routine Vitamin a Supplementation on Nutritional Status of Children Aged 6-59 Months in Wajir County, Kenya," *Int. J. Prof. Pract.*, vol. 9, no. 1, pp. 48–56, Jan. 2021. [Online]. Available at: <https://ijpp.kemu.ac.ke/index.php/ijpp/article/view/72>.
- [10] M. Ekholuenetale, A. Barrow, C. E. Ekholuenetale, and G. Tudeme, "Impact of stunting on early childhood cognitive development in Benin: evidence from Demographic and Health Survey," *Egypt. Pediatr. Assoc. Gaz.*, vol. 68, no. 1, p. 31, Dec. 2020, doi: [10.1186/s43054-020-00043-x](https://doi.org/10.1186/s43054-020-00043-x).
- [11] R. Muallem *et al.*, "Econeurobiology and brain development in children: key factors affecting development, behavioral outcomes, and school interventions," *Front. Public Heal.*, vol. 12, p. 1376075, Sep. 2024, doi: [10.3389/fpubh.2024.1376075](https://doi.org/10.3389/fpubh.2024.1376075).
- [12] B. Koshy *et al.*, "Are early childhood stunting and catch-up growth associated with school age cognition?—Evidence from an Indian birth cohort," *PLoS One*, vol. 17, no. 3, p. e0264010, Mar. 2022, doi: [10.1371/journal.pone.0264010](https://doi.org/10.1371/journal.pone.0264010).
- [13] W. Achmad, "Social Reality Stunting Prevention in Cianjur District," *J. EduHealth*, vol. 13, no. 02, pp. 467–477, Oct. 2022. [Online]. Available at: <https://ejournal.seaninstitute.or.id/index.php/health/article/view/575>.
- [14] Z. J. Sadida, R. Indriyanti, and A. S. Setiawan, "Does Growth Stunting Correlate with Oral Health in Children?: A Systematic Review," *Eur. J. Dent.*, vol. 16, no. 01, pp. 32–40, Feb. 2022, doi: [10.1055/s-0041-1731887](https://doi.org/10.1055/s-0041-1731887).
- [15] R. D. Osei and M. P. Lambon-Quayefio, "Effects of Long-Term Malnutrition on Education Outcomes in Ghana: Evidence from a Panel Study," *Eur. J. Dev. Res.*, vol. 34, no. 1, pp. 1–21, Feb. 2022, doi: [10.1057/s41287-020-00350-4](https://doi.org/10.1057/s41287-020-00350-4).
- [16] N. N. Nadila, "The Use of Instagram as Media for Stunting Campaign: Analysis on Gen Z Knowledge," in *Nusantara Science and Technology Proceedings*, Sep. 2021, pp. 475–479, doi: [10.11594/nstp.2021.1105](https://doi.org/10.11594/nstp.2021.1105).
- [17] D. Aprilia, E. Sulistijono, and I. W. A. Indrawan, "The Effect of Low Birth Weight Incidence toward Stunting and Developmental Disorders of Toddlers," *EAS J. Nurs. Midwifery*, vol. 4, no. 2, pp. 58–64, Apr. 2022, doi: [10.36349/easjnm.2022.v04i02.007](https://doi.org/10.36349/easjnm.2022.v04i02.007).
- [18] I. Krisnana, I. N. Pratiwi, and A. Cahyadi, "The relationship between socio-economic factors and parenting styles with the incidence of stunting in children," *Syst. Rev. Pharm.*, vol. 11, no. 5, pp. 738–743, 2020, [Online]. Available at: <https://d1wqtxts1xzle7.cloudfront.net/78481843/the-relationship-between-socioeconomic-factors-and-parenting-styles-with-the-incidence-of-stunting-in-children-libre.pdf>.
- [19] J. Judiono *et al.*, "Determinant Factors of Short Birth Length Baby as a Risk Factor of Stunting in West Java," *Amerta Nutr.*, vol. 7, no. 2, pp. 240–247, Jun. 2023, doi: [10.20473/amnt.v7i2.2023.240-247](https://doi.org/10.20473/amnt.v7i2.2023.240-247).
- [20] M. A. D. Ulkhak and N. Kurniatsnaini, "The relationship of knowledge, parenting and economy in stunting prevention," *Sci. Midwifery*, vol. 11, no. 4, pp. 706–714, Oct. 2023. [Online]. Available at: <http://midwifery.iocspublisher.org/index.php/midwifery/article/view/1357>.
- [21] S. Suyanto *et al.*, "Understanding stunting risk factors in Kampar Regency: Insights from mothers with stunted children (qualitative study)," *SAGE Open Med.*, vol. 12, p. 311, Jan. 2024, doi: [10.1177/20503121241244662](https://doi.org/10.1177/20503121241244662).
- [22] D. I. Yani, L. Rahayuati, C. W. M. Sari, M. Komariah, and S. R. Fauziah, "Family Household Characteristics and Stunting: An Update Scoping Review," *Nutrients*, vol. 15, no. 1, p. 233, Jan. 2023, doi: [10.3390/nu15010233](https://doi.org/10.3390/nu15010233).
- [23] Maya Sari, Maimunah R, and Nopitayanti Br Sitorus, "Counseling about MP-ASI to Mothers for Improving Children's Nutritional Status," *Int. J. Community Serv.*, vol. 1, no. 2, pp. 197–205, Dec. 2022, doi: [10.55299/ijcs.v1i2.244](https://doi.org/10.55299/ijcs.v1i2.244).

- [24] D. V. Sari *et al.*, "Developing Mothers' Knowledge about Weaning Food in Infants Aged 6-24 Months through Video," *Babali Nurs. Res.*, vol. 5, no. 3, pp. 591–599, Jul. 2024, doi: [10.37363/bnr.2024.53383](https://doi.org/10.37363/bnr.2024.53383).
- [25] S. Nurdin, M. M. Samson, S. Sakinah, A. Asnuddin, H. Hasrul, and M. Murtini, "Education on Processing Complementary Foods for Breast Milk (MP-Asi) as an Effort to Prevent Stunting in Toddlers," *J. Kreat. Pengabd. Kpd. Masy.*, vol. 5, no. 8, pp. 2603–2611, Aug. 2022, doi: [10.33024/jkpm.v5i8.6680](https://doi.org/10.33024/jkpm.v5i8.6680).
- [26] G. S. Hidayati, Y. Nugraha, D. I. Amareta, and E. T. Ardianto, "Implementation of Emotional Demonstration (Emodemo) Increases Mothers' Understanding of Child Nutrition in 1000 HPK," pp. 246-250, 2017. [Online]. Available at: <https://www.researchgate.net/publication/333865405>.
- [27] E. M. Videricka, F. W. Ningtyias, N. F. W. Astuti, and D. I. Adi, "Emotional Demonstration (Emo-Demo) Say No to Early Complementary Foods for Breast Milk (MP-ASI)," *Al-khidmah*, vol. 3, no. 1, p. 19, Oct. 2020, doi: [10.29406/al-khidmah.v3i1.2401](https://doi.org/10.29406/al-khidmah.v3i1.2401).