



THE EFFECT OF EDUCATION ON MOTHERS' KNOWLEDGE OF INFANT AND CHILD FEEDING FOR STUNTED CHILDREN AS A PREVENTIVE MEASURE AGAINST TUBERCULOSIS IN CHILDREN

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ABSTRACT

Children who experience stunting are at a higher risk of being infected with infectious diseases, including tuberculosis (TB). By increasing mothers' knowledge about proper feeding practices, it is expected that the prevalence of TB among stunted children can be reduced. This study aims to examine the effect of education on mothers' knowledge regarding infant and child feeding practices for stunted children as a preventive measure against tuberculosis (TB) in children. The study utilized a one-group pretest-posttest design and was conducted in the Kosiwo Community Health Center's service area. A total of 45 participants were selected using a total sampling method. Data in this study were collected before and after the intervention using a validated and reliable questionnaire on children's nutrition knowledge and a questionnaire on children's knowledge of tuberculosis (TB), with Cronbach's alpha values of 0.897 for the nutrition knowledge questionnaire and 0.946 for the children's knowledge of TB questionnaire. The results were analyzed with the Paired T-Test, which showed that the mean knowledge score regarding Infant and Child Feeding before the intervention was 12.89. After the educational intervention, this score increased by 11.11 points to 24.00, with a p-value of 0.000, indicating statistical significance as it is less than $\alpha = 0.05$. Additionally, the mean knowledge score concerning TB transmission in children was 14.89 before the intervention, rising by 9.78 points to 24.67 afterward, also yielding a p-value of 0.000, which is below $\alpha = 0.05$.

Keywords: children; education; feeding; stunting; TB

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INTRODUCTION

Malnutrition is a major contributor to child mortality, especially in the first five years of life. Its primary driver is poverty, accompanied by low educational attainment, natural disasters, and restricted access to healthcare services. Protein-energy malnutrition usually appears in children between 6 months and 2 years old and is linked to early weaning, delayed introduction of solid foods, inadequate protein consumption, and serious infections.(Trisnawati & Sulistyowati, 2021;Lailia et al., 2021).According to data from the Central Bureau of Statistics (2019), the prevalence of undernutrition among children aged 0-59 months in Indonesia was 17.70%. In the Bangka Belitung Islands, the rate of malnourished children has been increasing. In 2016, the rate of undernourished children aged 0-59 months was 13.24%, rising to 16.70% in 2017 and 17% in 2018 (Trijuliana et al., 2020). In Papua Province, the rate of stunted children rose by 5.1% in 2022. The Indonesian Nutritional Status Survey (SSGI) conducted by the Ministry of Health reported a stunting prevalence of 34.6% in the province, making it the third-highest in the country. In comparison, the stunting rate in Yapen Islands Regency was 31.1%, considerably above the national average. To combat the stunting problem, the National Team for the Acceleration of Poverty Reduction has

formulated a stunting intervention strategy in Indonesia, incorporating both specific and sensitive nutritional measures. (Widiyanti et al., 2021).

Stunting is a nutritional condition that compromises the immune system, increasing children's vulnerability to infectious diseases such as tuberculosis (TB). It is a chronic issue stemming from prolonged inadequate nutrient intake, which impairs the child's capacity to combat TB bacteria. (Jahiroh & Prihartono, 2013) According to Haerana et al., (2021) children with stunting who do not receive the BCG vaccine are at higher risk of contracting tuberculosis (TB), especially those under the age of five who have been in contact with TB patients. Malnutrition causes wasting, stunting, and a reduction in cell-mediated immunity (CMI). These symptoms are also seen in TB patients, and decreased CMI efficiency and phagocytosis can increase the susceptibility of malnourished individuals to TB infection, thus requiring serious attention from the government (Martin & Sabina, 2019; Wulandari & Muniroh, 2020)

The Yapen Islands Regency government has emphasized eight integrated actions to address stunting in the regency. However, these efforts have not yet resulted in a significant reduction in stunting cases, as indicated by the relatively low decrease in stunting prevalence—4.62% in 2021 and 3% in 2022. The district with the highest stunting rate is Kosiwo, with a prevalence of 25% (Dinkes Kepulauan Yapen, 2022). The programs launched by the Yapen Islands Regency government have not been effective in reducing stunting and TB rates in the region. The assistance provided only meets the needs of families with stunted children, but does not improve public knowledge about stunting, which is crucial for changing community behavior in preventing stunting in the Kosiwo Community Health Center area. This study aims to examine the effect of education on mothers' knowledge regarding infant and child feeding practices for stunted children as a preventive measure against tuberculosis (TB) in the Kosiwo Health Center area of Yapen Islands Regency

METHOD

The research design used is a one-group pretest-posttest design, which examines cause-and-effect relationships without involving a control group. The study will be conducted in the working area of the Kosiwo Community Health Center, Yapen Islands Regency, from May to October 2024. The intervention group in this study will receive educational treatment. The study will begin with a pre-test, and after the intervention is applied, a post-test will be administered. The population in this study consists of mothers of stunted children in the working area of the Kosiwo Community Health Center, with a total of 45 participants. The sampling technique used in this study is total sampling, meaning that the entire population will be included as the research sample, resulting in a total of 45 respondents. Data in this study were collected before and after the intervention using a validated and reliable questionnaire on children's nutrition knowledge and a questionnaire on children's knowledge of tuberculosis (TB), with Cronbach's alpha values of 0.897 for the nutrition knowledge questionnaire and 0.946 for the children's knowledge of TB questionnaire. Data analysis will be conducted using SPSS software. The first step is editing, where all completed questionnaires from respondents will be collected. Next, coding will be performed by assigning specific code numbers to facilitate data entry. The third step is scoring, where the values or scores for each variable will be calculated. The fourth step is data entry or tabulation, where all data will be entered into tables based on the assigned codes. Finally, data will be analyzed using descriptive analysis to describe the characteristics of the respondents and research variables. A paired t-test will be performed if the data are normally distributed, and if not, a Wilcoxon signed-rank test will be used. This study has received ethical approval

from the Research Ethics Committee of YATSI Madani University, with ethics number: 272.LPM-UYM/VIII/2024

RESULT

Table 1.
Respondent Characteristics

Variable	f	%
Child's Gender		
Male	17	37.8
Female	28	62.2
Education Level		
Not in School	4	8.9
Elementary School	14	31.1
Junior High School	4	8.9
Senior High School	23	51.1
Mother's Age		
17-25 Year	12	26.7
26-35 Year	22	48.9
36-45 Year	11	24.4

Based on the data in Table 1 above, it can be seen that the most common gender of the children is female, accounting for 62.2%, while males represent 37.8%. The highest distribution of mothers' education levels is high school graduates at 51.1%, followed by elementary school at 31.1%, junior high school at 8.9%, and no formal education at 8.9%.

Table 2.
Variables of Knowledge Regarding Infant and Child Feeding

Knowledge about Regarding Infant and Child Feeding	Pretest		Posttest	
	f	%	f	%
Good	-	-	37	82,2
Enough	4	8,9	8	17,8
Poor	41	91,1	-	-

Based on the data from the distribution of mothers' knowledge about infant and child feeding in Table 2 above, it shows that the highest level of knowledge among mothers before the intervention was in the "poor" category at 91.1%. After the intervention, there was a change, with the number of mothers classified as having "good" knowledge increasing to 82.2%.

Table 3.
Knowledge of Tuberculosis Transmission in Children

Knowledge About TB Transmission	Pretest		Posttest	
	f	%	f	%
Good	-	-	39	86,7
Enough	14	31,1	6	13,3
Poor	31	68,9	-	-

Based on the data from the distribution of mothers' knowledge about tuberculosis (TB) transmission in children in Table 3 above, it shows that the highest level of knowledge among mothers before the intervention was in the "poor" category at 68.9%. After the intervention, there was a change, with the number of mothers classified as having "good" knowledge increasing to 86.7%.

Table 4.
Analysis of the Impact of Education on Mothers' Knowledge About Infant and Child Feeding

Knowledge	Mean	N	SD	P Value
Pretest	12.89	45	2.604	0,000
Posttest	24.00	45	2.629	

Based on the analysis of the impact of education on mothers' knowledge about infant and child feeding for stunted children above, it can be observed that the average mean score

before the intervention was 12.89. After the educational intervention, there was an increase in the mean score of mothers' knowledge about infant and child feeding by 11.11, resulting in a new mean score of 24.00. The analysis yielded a p-value of 0.000, which is less than $\alpha = 0.05$.

Table 5.

Analysis of the Impact of Education on Mothers' Knowledge About TB Transmission in Children

Knowledge About TB Transmission	Mean	N	SD	P Value
Pretest	14.89	45	2.604	0,000
Posttest	24.67	45	2.594	

Based on the analysis of the impact of education on mothers' knowledge about TB transmission in children, it can be observed that the average mean score before the intervention was 14.89. After the educational intervention, there was an increase in the mean score related to mothers' knowledge about TB transmission in children by 9.78, resulting in a new mean score of 24.67. The analysis yielded a p-value of $0.000 < \alpha = 0.05$.

DISCUSSION

The Impact of Education on Mothers' Knowledge About Infant and Child Feeding

Based on the analysis of the impact of education on mothers' knowledge about infant and child feeding for stunted toddlers, the average mean score before the intervention was 12.89. After the educational intervention, there was an increase of 11.11 in the mean score regarding mothers' knowledge about infant and child feeding, resulting in a new mean score of 24.00. The analysis yielded a p-value of 0.000, which is less than $\alpha = 0.05$. This study aligns with the findings of Arisjulyanto & Puspita (2024), which indicate that providing education on infant and child feeding enhances mothers' knowledge about the nutritional status of infants and children. Mothers with a strong understanding of infant and child feeding are more likely to provide proper nutrition and maintain healthy eating patterns for their children, as good knowledge shapes positive attitudes and behaviors. The impact of education on infant and child feeding on mothers' knowledge about nutrition and stunting is highly significant, as evidenced by various studies. Education on infant and child feeding enhances mothers' understanding of nutrition, which is crucial for preventing stunting.

Research has shown that education on infant and child feeding significantly improves mothers' knowledge of infant feeding practices, which is essential for preventing stunting (Idawati et al., 2023; Mustajab & Resmi, 2023). One study indicates that health education on nutritious food positively influences mothers' knowledge, with a p-value of 0.000, demonstrating a strong correlation between education and increased knowledge. The aim of health education is to transfer knowledge from instructors to participants to improve or change behaviors or habits that are not aligned with health practices, particularly regarding the provision of nutritious food for toddlers to prevent stunting (Mustajab & Resmi, 2023). According to Rahmanindar et al., (2020), effective education on infant and child feeding can lead to better dietary practices and reduce the incidence of stunting among children. For instance, the Pawon Simbok program demonstrates how practical cooking demonstrations can improve mothers' breastfeeding practices. Continuous education and monitoring during pregnancy can significantly lower rates of stunting in children, emphasizing the importance of maternal nutrition education (Sukmawati et al., 2021).

Stunting is a chronic nutritional problem faced by toddlers in Indonesia, characterized by a height that is below the standard for their age. One of the causes of stunting is inadequate nutritional intake, especially during the first 1,000 days of life. Appropriate Infant and Child Feeding (IMF) plays a crucial role in preventing stunting. However, mothers' knowledge

about infant and child feeding is often insufficient, which can affect feeding practices. Educating mothers about infant and child feeding can enhance their knowledge and skills in providing healthy and balanced food to toddlers. Research shows that structured and continuous education can improve mothers' understanding of the importance of nutrition during critical periods of child development. For instance, a study conducted by Hikmah & Sunarsih (2024) demonstrates that education through nutritional counseling and practical training significantly increases mothers' knowledge about infant and child feeding and reduces the prevalence of stunting. These findings indicate that education is highly effective in enhancing mothers' knowledge and changing the practices of providing complementary feeding. However, education does not directly affect the weight of toddlers who are underweight. This research provides additional insights into the impact of education on child health aspects and specific feeding practices (Dewi & Aminah, 2016).

Education can also help mothers understand the importance of food variety, meal frequency, and meeting essential micronutrient needs. With better knowledge, mothers are more likely to be aware of and attentive to appropriate feeding practices, ultimately improving their children's nutritional status and preventing stunting. Educational interventions using media through demonstrations and hands-on practices for preventing stunting among pregnant women are very useful in enhancing their knowledge regarding food preparation, portion sizes, energy intake, and protein intake to prevent stunting (Kumala & Sianipar, 2019). Effective education on infant and child feeding plays a crucial role in enhancing mothers' knowledge, which can further influence feeding practices and children's nutritional status. With better knowledge, mothers can take appropriate steps to prevent stunting in their children. Therefore, nutrition education programs should be an integral part of efforts to prevent stunting in the community.

The Impact of Education on Mothers' Knowledge About Tuberculosis Transmission in Stunted Children

Based on the analysis of the impact of education on mothers' knowledge about tuberculosis (TB) transmission in children, the average mean score before the intervention was 14.89. After the educational intervention, there was an increase in the mean score regarding knowledge about TB transmission in children by 9.78, resulting in a new mean score of 24.67. The analysis yielded a p-value of 0.000, which is less than $\alpha = 0.05$. Tuberculosis (TB) is a communicable disease that remains a serious health issue in many developing countries, including Indonesia. Children with stunting are more vulnerable to various infections, including TB, due to their weakened immune systems. TB in stunted children not only worsens their nutritional status but also increases the risk of mortality. Therefore, mothers' knowledge about the transmission and prevention of TB is crucial in efforts to reduce this risk.

Educating mothers about TB transmission can significantly enhance their understanding of how to prevent the spread of TB to children, especially those experiencing stunting. A study by Mulyati et al., (2020) showed that after receiving education, there was a significant increase in mothers' knowledge regarding risk factors, symptoms, and preventive measures for TB in children. Stunting in children significantly increases the risk of tuberculosis (TB) infection and disease progression. Research shows that malnutrition, especially stunting, disrupts immune function, making children more susceptible to TB when exposed to *Mycobacterium tuberculosis*. One study found that stunted children had a 2.36 times higher prevalence of TB infection compared to their well-nourished peers (Haerana et al., 2021).

Malnutrition, including stunting, is associated with an increased risk of TB, with a hazard ratio of 2.23, indicating a two-fold increase in risk (Franco et al., 2024)

Malnourished children exhibit lower cell-mediated immunity, leading to more severe forms of TB. Targeting nutritional interventions in high-risk populations, especially children in TB-endemic areas, is crucial for TB prevention (Jaganath & Mupere, 2012). Addressing malnutrition can significantly reduce the incidence of TB and improve health outcomes for affected children. Conversely, while stunting is a critical risk factor, not all malnourished children develop TB, indicating that other factors, such as genetic predisposition and environmental conditions, also play important roles in TB vulnerability (Franco et al., 2024). The findings of Khairunnisa et al., (2023) indicate an increase in parents' knowledge about tuberculosis, including prevention efforts, symptoms, treatment methods, and early detection procedures. Statistical tests show that the health education intervention provided has an impact on improving the knowledge of health workers and parents. Thus, efforts for tuberculosis prevention and early detection in children can be carried out, especially for children with stunting and nutritional problems, as these children have a higher risk compared to normally nourished children (Owa & Rochmawati, 2020).

Education also helps mothers understand the importance of early detection and treatment of TB, as well as emphasizes the significance of maintaining environmental hygiene and proper home ventilation. This knowledge is vital, considering that stunted children are more vulnerable to infections, and early prevention of TB can prevent more serious complications. Effective education regarding TB transmission is essential for enhancing mothers' knowledge, particularly those with stunted children. With better knowledge, mothers can take more appropriate preventive measures to protect their children from the risk of TB transmission. Health education programs should be focused on vulnerable groups of mothers, especially in areas with high prevalence of TB and stunting.

CONCLUSION

This study demonstrates that education provided to mothers of stunted toddlers regarding the feeding of infants and children has a significant impact on enhancing their knowledge. Improved knowledge about infant and child feeding plays a crucial role in promoting healthy and balanced feeding practices, which not only helps reduce the risk of stunting but also strengthens children's immune systems. With better immunity, stunted children become more resistant to various infections, including Tuberculosis (TB). Education focusing on infant and child feeding as a preventive measure can also help mothers understand the importance of nutrition in preventing TB infections. Thus, a structured and continuous education program on infant and child feeding can serve dual purposes: preventing stunting and acting as a preventive strategy against the transmission of TB in children. Overall, this study underscores the importance of educational interventions for mothers of stunted toddlers as an effective preventive step to reduce the risk of TB in children while also supporting their optimal growth and development

REFERENCES

- Arisjulyanto, D., & Puspita, N. I. (2024). Pengaruh Pemberdayaan Pmba Terhadap Sikap Keluarga Balita Stunting Di Kabupaten Lombok Tengah. *Jurnal Kesehatan Tropis Indonesia*, 1(4).

- Dewi, M., & Aminah, M. (2016). Pengaruh Edukasi Gizi Terhadap Feeding Practice Ibu Balita Stunting Usia 6-24 Bulan. *Indonesian Journal Of Human Nutrition*, 3(1), 42–53. Www.Ijhn.Ub.Ac.Id
- Dinkes Kepulauan Yapen. (2022). Data Stunting Kabupaten Kepulauan Yapen.
- Franco, J. V. A., Bongaerts, B., Metzendorf, M. I., Risso, A., Guo, Y., Peña Silva, L., Boeckmann, M., Schlesinger, S., Damen, J. A. A. G., Richter, B., Baddeley, A., Bastard, M., Carlqvist, A., Garcia-Casal, M. N., Hemmingsen, B., Mavhunga, F., Manne-Goehler, J., & Viney, K. (2024). Diabetes As A Risk Factor For Tuberculosis Disease. *Cochrane Database Of Systematic Reviews*, 2024(8). <https://doi.org/10.1002/14651858.Cd016013.Pub2>
- Haerana, B. T., Prihartono, N. A., Riono, P., Djuwita, R., Syarif, S., Hadi, E. N., & Kaswandani, N. (2021a). Prevalence Of Tuberculosis Infection And Its Relationship To Stunting In Children (Under Five Years) Household Contact With New Tuberculosis Cases. *Indian Journal Of Tuberculosis*, 68(3), 350–355. <https://doi.org/10.1016/J.Ijtb.2020.10.011>
- Haerana, B. T., Prihartono, N. A., Riono, P., Djuwita, R., Syarif, S., Hadi, E. N., & Kaswandani, N. (2021b). Prevalence Of Tuberculosis Infection And Its Relationship To Stunting In Children (Under Five Years) Household Contact With New Tuberculosis Cases. *Indian Journal Of Tuberculosis*, 68(3), 350–355. <https://doi.org/10.1016/J.Ijtb.2020.10.011>
- Hikmah, F. N., & Sunarsih, T. (2024). Pengaruh Pendidikan Kesehatan Terhadap Pengetahuan Dan Sikap Ibu Tentang Pemberian Makan Bayi Dan Anak Stunting. *Oksitosin: Jurnal Ilmiah Kebidanan*, 11(2), 130–141.
- Idawati, I., Rosmawardiani, R., Umami Salamah, Nasriah, N., & Dian Rahayu. (2023). Pemberian Makan Bayi Dan Anak (Pmba) Dengan Kejadian Stunting. *Sehatmas: Jurnal Ilmiah Kesehatan Masyarakat*, 2(3), 651–660. <https://doi.org/10.55123/Sehatmas.V2i3.2054>
- Jaganath, D., & Mupere, E. (2012). Childhood Tuberculosis And Malnutrition. *Journal Of Infectious Diseases*, 206(12), 1809–1815. <https://doi.org/10.1093/infdis/jis608>
- Jahiroh, & Prihartono, N. (2013). Hubungan Stunting Dengan Kejadian Tuberkulosis Relationship Nutritional Stunting And Tuberculosis. *The Indonesian Journal Of Infectious Disease*, 6–13.
- Khairunnisa, C., Sahputri, J., & Kautsar, M. (2023). Pembinaan Kader Kesehatan Dan Peningkatan Pengetahuan Orang Tua Dalam Deteksi Dini Tuberkulosis Pada Anak Di Desa Reuleut Timu Kabupaten Aceh Utara. 4, 87–96.
- Kumala, D., & Sianipar, S. S. (2019). Pengaruh Pemberian Makanan Bayi Dan Anak (Pmba) Sesuai Tahapan Pada Balita Usia 0 – 24 Bulan Dalam Upaya Penurunan Resiko Stunting Pada 1000 Hari Pertama Kehidupan Di Posyandu Wilayah Kerja Puskesmas Kereng Bangkirai Kota Palangka Raya Kalimantan Tengah. *Dinamika Kesehatan Jurnal Kebidanan Dan Keperawatan*, 10(2), 571–584. <https://doi.org/10.33859/Dksm.V10i2.499>

- Lailia, I., Kismartini, & Rahman, A. Z. (2021). Peran Stakeholders Dalam Implementasi Kebijakan Intervensi Gizi Sensitif Di Kota Semarang. *Journal Of Public Policy*, 3, 103–111.
- Martin, S. J., & Sabina, E. P. (2019). Malnutrition And Associated Disorders In Tuberculosis And Its Therapy. *Journal Of Dietary Supplements*, 16(5), 602–610. <https://doi.org/10.1080/19390211.2018.1472165>
- Mulyati, M., Winarni, L. M., & Ratnasari, F. (2020). Pengaruh Pendidikan Kesehatan Tuberkulosis Terhadap Pengetahuan Kader Tentang Tuberkulosis Paru: A Literature Review. *Jurnal Menara Medika*, 2(2). <https://doi.org/10.31869/Mm.V2i2.2187>
- Mustajab, A. A., & Resmi, D. C. (2023). Pengaruh Pendidikan Kesehatan Pemberian Makanan Bergizi Untuk Pencegahan Bayi Dan Balita Stunting Terhadap Pengetahuan Ibu. *Manuju: Malahayati Nursing Journal*, 5(10), 3338–3346.
- Nursalam. (2021). *Metodelogi Penelitian* (1st Ed.). Gramedia.
- Owa, M. G., & Rochmawati, E. (2020). Efektifitas Edukasi Tb Melalui Booklet Berbahasa Tetun Terhadap Pengetahuan Dan Sikap Keluarga Dalam Pencegahan Penularan Tb Di Centru Saude Comoro, Dili, Timor Leste. *Wiraraja Medika : Jurnal Kesehatan*, 10(1), 29–35. <https://doi.org/10.24929/Fik.V10i1.931>
- Rahmanindar, N., Nisa, J., & Qudriani, M. (2020). Pembuatan Makanan Bayi Dan Anak (Pmba) Melalui Program Pawon Simbok Untuk Mencegah Stunting Di Puskesmas Kramat. *Jpm: Jurnal Pengabdian Masyarakat*, 1(2), 46–47.
- Sugiyono. (2018). *Metode Penelitian Kuantitatif Kualitatif Dan Rd*. Alfabeta.
- Sukmawati, S., Hermayanti, Y., Fadlyana, E., & Mediani, H. S. (2021). Stunting Prevention With Education And Nutrition In Pregnant Women: A Review Of Literature. *Open Access Macedonian Journal Of Medical Sciences*, 9(T6), 12–19. <https://doi.org/10.3889/Oamjms.2021.7314>
- Trijuliana, D., Rizki, M. F., & Argenti, G. (2020). Komitmen Politik: Penegakan Hukum & Keberlanjutan Usaha Pemerintah Kota Tasikmalaya Dalam Upaya Menurunkan Angka Stunting. *Journal Of Government And Political Studies*, 3(2).
- Trisnawati, Y., & Sulistyowati, N. (2021). Status Gizi Dan Karakteristik Yang Berhubungan Dengan Malnutrisi Pada Balita Di Posyandu Saliara Kota Tanjungpinang. *Seminar Nasional Syedza Saintika*, 1(1).
- Widiyanti, H., Saimi, & Khalik, L. A. (2021). Pengaruh Pemberdayaan Pmba Terhadap Kesadaran Kritis Keluarga Balita Stunting Di Kabupaten Lombok Tengah. *Jurnal Keperawatan*, 13(3), 625–636.
- Wulandari, R. C., & Muniroh, L. (2020). Orangtua Dengan Kejadian Stunting Pada Balita Di Wilayah Kerja Puskesmas Tambak Wedi Surabaya Correlation Between Adequacy Levels Of Nutrition , M Other ' S Knowledge Level , And Height Of Parents With The Incidence Of Stunting In Toddler In Puskesmas Tam. *Amerta Nutr*, 4(2), 95–102. <https://doi.org/10.20473/Amnt>.

- Arisjulyanto, D., & Puspita, N. I. (2024). Pengaruh Pemberdayaan Pmba Terhadap Sikap Keluarga Balita Stunting Di Kabupaten Lombok Tengah. *Jurnal Kesehatan Tropis Indonesia*, 1(4).
- Dewi, M., & Aminah, M. (2016). Pengaruh Edukasi Gizi Terhadap Feeding Practice Ibu Balita Stunting Usia 6-24 Bulan. *Indonesian Journal Of Human Nutrition*, 3(1), 42–53. Www.Ijhn.Ub.Ac.Id
- Dinkes Kepulauan Yapen. (2022). Data Stunting Kabupaten Kepulauan Yapen.
- Franco, J. V. A., Bongaerts, B., Metzendorf, M. I., Risso, A., Guo, Y., Peña Silva, L., Boeckmann, M., Schlesinger, S., Damen, J. A. A. G., Richter, B., Baddeley, A., Bastard, M., Carlqvist, A., Garcia-Casal, M. N., Hemmingsen, B., Mavhunga, F., Manne-Goehler, J., & Viney, K. (2024). Diabetes As A Risk Factor For Tuberculosis Disease. *Cochrane Database Of Systematic Reviews*, 2024(8). <https://doi.org/10.1002/14651858.Cd016013.Pub2>
- Haerana, B. T., Prihartono, N. A., Riono, P., Djuwita, R., Syarif, S., Hadi, E. N., & Kaswandani, N. (2021a). Prevalence Of Tuberculosis Infection And Its Relationship To Stunting In Children (Under Five Years) Household Contact With New Tuberculosis Cases. *Indian Journal Of Tuberculosis*, 68(3), 350–355. <https://doi.org/10.1016/J.Ijtb.2020.10.011>
- Haerana, B. T., Prihartono, N. A., Riono, P., Djuwita, R., Syarif, S., Hadi, E. N., & Kaswandani, N. (2021b). Prevalence Of Tuberculosis Infection And Its Relationship To Stunting In Children (Under Five Years) Household Contact With New Tuberculosis Cases. *Indian Journal Of Tuberculosis*, 68(3), 350–355. <https://doi.org/10.1016/J.Ijtb.2020.10.011>
- Hikmah, F. N., & Sunarsih, T. (2024). Pengaruh Pendidikan Kesehatan Terhadap Pengetahuan Dan Sikap Ibu Tentang Pemberian Makan Bayi Dan Anak Stunting. *Oksitosin: Jurnal Ilmiah Kebidanan*, 11(2), 130–141.
- Idawati, I., Rosmawardiani, R., Ummi Salamah, Nasriah, N., & Dian Rahayu. (2023). Pemberian Makan Bayi Dan Anak (Pmba) Dengan Kejadian Stunting. *Sehatmas: Jurnal Ilmiah Kesehatan Masyarakat*, 2(3), 651–660. <https://doi.org/10.55123/Sehatmas.V2i3.2054>
- Jaganath, D., & Mupere, E. (2012). Childhood Tuberculosis And Malnutrition. *Journal Of Infectious Diseases*, 206(12), 1809–1815. <https://doi.org/10.1093/infdis/jis608>
- Jahiroh, & Prihartono, N. (2013). Hubungan Stunting Dengan Kejadian Tuberkulosis Relationship Nutritional Stunting And Tuberculosis. *The Indonesian Journal Of Infectious Disease*, 6–13.
- Khairunnisa, C., Sahputri, J., & Kautsar, M. (2023). Pembinaan Kader Kesehatan Dan Peningkatan Pengetahuan Orang Tua Dalam Deteksi Dini Tuberkulosis Pada Anak Di Desa Reuleut Timu Kabupaten Aceh Utara. 4, 87–96.
- Kumala, D., & Sianipar, S. S. (2019). Pengaruh Pemberian Makanan Bayi Dan Anak (Pmba) Sesuai Tahapan Pada Balita Usia 0 – 24 Bulan Dalam Upaya Penurunan Resiko Stunting Pada 1000 Hari Pertama Kehidupan Di Posyandu Wilayah Keja Puskesmas Kereng Bangkirai Kota Palangka Raya Kalimantan Tengah. *Dinamika Kesehatan Jurnal*

- Kebidanan Dan Keperawatan, 10(2), 571–584.
<https://doi.org/10.33859/Dksm.V10i2.499>
- Lailia, I., Kismartini, & Rahman, A. Z. (2021). Peran Stakeholders Dalam Implementasi Kebijakan Intervensi Gizi Sensitif Di Kota Semarang. *Journal Of Public Policy*, 3, 103–111.
- Martin, S. J., & Sabina, E. P. (2019). Malnutrition And Associated Disorders In Tuberculosis And Its Therapy. *Journal Of Dietary Supplements*, 16(5), 602–610.
<https://doi.org/10.1080/19390211.2018.1472165>
- Mulyati, M., Winarni, L. M., & Ratnasari, F. (2020). Pengaruh Pendidikan Kesehatan Tuberkulosis Terhadap Pengetahuan Kader Tentang Tuberkulosis Paru: A Literature Review. *Jurnal Menara Medika*, 2(2). <https://doi.org/10.31869/Mm.V2i2.2187>
- Mustajab, A. A., & Resmi, D. C. (2023). Pengaruh Pendidikan Kesehatan Pemberian Makanan Bergizi Untuk Pencegahan Bayi Dan Balita Stunting Terhadap Pengetahuan Ibu. *Manuju: Malahayati Nursing Journal*, 5(10), 3338–3346.
- Nursalam. (2021). *Metodelogi Penelitian* (1st Ed.). Gramedia.
- Owa, M. G., & Rochmawati, E. (2020). Efektifitas Edukasi Tb Melalui Booklet Berbahasa Tetun Terhadap Pengetahuan Dan Sikap Keluarga Dalam Pencegahan Penularan Tb Di Centru Saude Comoro, Dili, Timor Leste. *Wiraraja Medika : Jurnal Kesehatan*, 10(1), 29–35. <https://doi.org/10.24929/Fik.V10i1.931>
- Rahmanindar, N., Nisa, J., & Qudriani, M. (2020). Pembuatan Makanan Bayi Dan Anak (Pmba) Melalui Program Pawon Simbok Untuk Mencegah Stunting Di Puskesmas Kramat. *Jpm: Jurnal Pengabdian Masyarakat*, 1(2), 46–47.
- Sugiyono. (2018). *Metode Penelitian Kuantitatif Kualitatif Dan Rd*. Alfabeta.
- Sukmawati, S., Hermayanti, Y., Fadlyana, E., & Mediani, H. S. (2021). Stunting Prevention With Education And Nutrition In Pregnant Women: A Review Of Literature. *Open Access Macedonian Journal Of Medical Sciences*, 9(T6), 12–19.
<https://doi.org/10.3889/Oamjms.2021.7314>
- Trijuliana, D., Rizki, M. F., & Argenti, G. (2020). Komitmen Politik: Penegakan Hukum & Keberlanjutan Usaha Pemerintah Kota Tasikmalaya Dalam Upaya Menurunkan Angka Stunting. *Journal Of Government And Political Studies*, 3(2).
- Trisnawati, Y., & Sulistyowati, N. (2021). Status Gizi Dan Karakteristik Yang Berhubungan Dengan Malnutrisi Pada Balita Di Posyandu Saliara Kota Tanjungpinang. *Seminar Nasional Syedza Saintika*, 1(1).
- Widiyanti, H., Saimi, & Khalik, L. A. (2021). Pengaruh Pemberdayaan Pmba Terhadap Kesadaran Kritis Keluarga Balita Stunting Di Kabupaten Lombok Tengah. *Jurnal Keperawatan*, 13(3), 625–636.
- Wulandari, R. C., & Muniroh, L. (2020). Orangtua Dengan Kejadian Stunting Pada Balita Di Wilayah Kerja Puskesmas Tambak Wedi Surabaya Correlation Between Adequacy Levels Of Nutrition , M Other ' S Knowledge Level , And Height Of Parents With The Incidence Of Stunting In Toddler In Puskesmas Tam. *Amerta Nutr*, 4(2), 95–102.
<https://doi.org/10.20473/Amnt>