

Article

Impact of Training on Local Food-Based Supplementary Feeding Knowledge of Posyandu Cadres for Undernutrition Management at Banjar 1 Public Health Center

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ABSTRACT

Background: Malnutrition remains a significant health challenge in Indonesia, especially among vulnerable groups like young children and pregnant women. Improving the skills and knowledge of posyandu cadres in preparing local food-based supplementary feeding (*Pemberian Makanan Tambahan/PMT*) can help address this issue effectively.

Objectives: This study aimed to improve the skills and knowledge of posyandu cadres in preparing local food-based supplementary feeding (*Pemberian Makanan Tambahan/PMT*).

Method: This study used a quasi-experimental design with a one-group pre-test and post-test approach. A group of posyandu cadres was assessed before and after receiving training on making PMT from local food sources. The Wilcoxon Signed Rank test was used to analyze the significance of knowledge changes.

Results: A total of 40 primarily female cadres participated, with age distribution showing 40% aged 36–45 years, 20% aged 26–35 years, 37% aged 46–55 years, and 3% aged 55–66 years. The training on local food-based PMT resulted in a significant increase in knowledge ($p < 0.001$).

Conclusion: Training on preparing and processing local food-based PMT effectively increased the knowledge of posyandu cadres. This improvement is essential for better management of malnutrition among toddlers and pregnant women in the Banjar 1 Public Health area.

Keywords: PMT, Malnutrition, Community health, Local food

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INTRODUCTION

Nutrition is one of the major public health challenges in Indonesia, particularly among vulnerable groups such as children under five and pregnant women. Globally, stunting remains the most common form of malnutrition experienced by children under five. The World Health Organization estimates that around 150 million children are affected, with stunting characterized by impaired physical growth resulting from chronic malnutrition (World Health Organization, 2025). In Indonesia, stunting continues to pose a serious challenge to improving child health. Data from the Indonesian Nutrition Status Survey (SSGI) show a significant decline in the stunting rate over the past decade; however, the national target of reducing stunting to 14% by 2024 has not been achieved (RI, 2025). This gap reflects persistent

problems in meeting children's nutritional needs, both in terms of food quantity and nutrient quality (Nugraheni et al., 2020).

Children who are undernourished face a high risk of developmental disorders, including stunting, wasting, and cognitive impairments (Ramlan et al., 2025). Pregnant women with chronic energy deficiency are also vulnerable to complications during pregnancy and childbirth, as well as increased risks of low birth weight, prematurity, and neonatal death (Rika Fitri Diningsih et al., 2021). The long-term consequences of these conditions extend beyond individuals, affecting the quality of future human resources and contributing to broader social and economic challenges for the nation (Masnah and Saputri, 2020).

One of the strategies to address these nutritional problems is the Supplementary Feeding Program (Program Makanan Tambahan/PMT) (Kementerian Kesehatan RI, 2021). The PMT program aims to improve nutritional intake among vulnerable groups by utilizing nutritious food ingredients (Sinaga et al., 2023). The use of local food supports food security and regional independence while promoting a culture of healthy and nutritious local consumption (Faizul Haq et al., 2023). However, the effectiveness of PMT programs depends on several factors, particularly the capacity and competence of posyandu cadres, who serve as the main implementers at the community level (Halisah et al., 2024). Posyandu cadres play a strategic role in identifying program targets, designing and preparing PMT menus, and delivering nutrition education to families of toddlers and pregnant women (Nugraheni and Malik, 2023). Without adequate knowledge of the nutritional value of local food ingredients, proper food processing techniques, and the importance of nutrition education, program implementation remains limited (Sengkey and Pangemanan, 2016). Therefore, community empowerment interventions, such as training posyandu cadres in preparing and processing local food-based PMT, are essential.

In practice, many cadres experience difficulties in processing PMT correctly and attractively, particularly in terms of taste, texture, and nutritional content. These limitations hinder efforts to expand coverage and improve the quality of local food-based PMT interventions. Strengthening cadre capacity through targeted training is therefore urgent. With proper training, cadres are expected to become agents of change, educating communities about the importance of balanced nutrition, especially for toddlers and pregnant women. Moreover, this initiative aligns with national policy directions to accelerate stunting reduction and improve community nutrition through community-based approaches and the empowerment of local resources.

Based on this context, the present study examines the effect of training on the preparation and processing of PMT from local foods in improving the knowledge of posyandu cadres in handling undernourished toddlers and pregnant women with chronic energy deficiency in the working area of UPTD Puskesmas Banjar 1. The findings of this study are expected to provide a foundation for future policy and program development, particularly in empowering cadres and strengthening nutrition programs at the community level through sustainable, locally based approaches.

METHODS

Study Setting and Design

This study was conducted in four villages within the working area of Puskesmas Banjar 1. The research employed a one-group pretest–posttest experimental design, which allowed measurement of outcomes before and after the intervention within the same group. Data collection was carried out using a cross-sectional approach, meaning that measurements were taken at specific points in time, namely before and after the training intervention.

Population and Sampling

The study population consisted of all posyandu cadres who participated in local supplementary feeding (Program Makanan Tambahan/PMT) training in the four villages served by Puskesmas Banjar 1 in 2025. A total of 40 cadres met the inclusion criteria. To ensure representativeness, a total sampling technique was applied, whereby all eligible cadres were included in the study. Thus, the final sample size was 40 respondents ($n = 40$).

Data Collection

Data collected included demographic and socio-economic characteristics of respondents, such as name, age, gender, level of education, and occupation. These variables provided baseline information for describing the study population and for assessing potential influences on knowledge outcomes.

Statistical Analysis

Data analysis consisted of descriptive and inferential approaches. Univariate analysis was used to describe each variable independently, including respondent characteristics such as age, gender, education level, and occupation. Bivariate analysis was conducted to examine differences in knowledge before and after the intervention. To test the effect of training on cooking and processing local supplementary feeding (PMT) on the knowledge of posyandu cadres in handling undernourished children and pregnant women with chronic energy deficiency (CED), the Wilcoxon Signed-Rank Test was applied. This non-parametric test was chosen because the data were not normally distributed. Normality was assessed using the Shapiro–Wilk test, which is appropriate for sample sizes fewer than 50.

RESULTS

Table 1 showed the age distribution of cadres in the Banjar 1 Health Center working area. The highest percentage was 40% aged 36–45 years, followed by 20% aged 26–35 years, 37% aged 46–55 years, and 3% aged 55–66 years. The distribution of the latest education attained by cadres indicated that 40% were junior high school graduates, 35% were elementary school graduates, and 25% were high school graduates. The occupational distribution showed that 57.5% were housewives, 2% were farmers, 15% were traders, and 22.5% were bamboo weavers.

Table 2 showed the distribution of cadres' knowledge levels before the training on processing PMT from local food. A total of 52% had poor knowledge, 10% had good knowledge, and 38% had sufficient knowledge. Table 6 showed the distribution of cadres' knowledge levels after the training, with 52% categorized as having sufficient knowledge and 48% categorized as having good knowledge.

Tabel 1. Characteristic of Posyandu Cadres in the Banjar 1 Health Center Working Area

Variables	Frequency	Percentage
Age		
26-35	8	20%
36-45	16	40%
46-55	15	37%
56-65	1	3%
Female	40	100%
Last Education		
SD	14	35%
SMP	15	40%
SMA	10	25%
Occupational		
Farmer	2	5%
Housewife	23	57,5%
Merchants	6	15%
Bamboo Weaver	9	22,5%

Table 2. Distribution of cadres' knowledge level before and after training

Category	Frequency	Percentage
Before		
Good	4	10%
Sufficient	15	38%
Less	21	52%
After		
Good	19	48%
Sufficient	21	52%
Less	0	0%

Table 3 showed the distribution of changes in cadres' knowledge levels before and after the training on PMT processing from local food. A total of 37 cadres (92%) experienced positive changes in knowledge from pre-test to post-test, while 3 cadres (8%) did not experience changes in their level of knowledge.

Table 3. Distribution of changes in cadres' knowledge level before and after training Changes in Knowledge

	Changes in Knowledge	Frequency	
		n	%
Pre-test — Post-test	a. Positive Change	37	92%
	b. Negative Change	0	0%
	c. No Change	3	8%
	Total	40	100%
Information	a: post-test > pre-test		
	b: post-test < pre-test		
	c: post-test = pre-test		

Table 4 showed the results of bivariate analysis of knowledge before and after the training on making PMT from local food. The statistical test results indicated a p-value of less than 0.05, which meant that there was a significant effect of providing training in making PMT from local ingredients on the knowledge of posyandu cadres in handling underweight toddlers and pregnant women with chronic energy deficiency.

Table 4. Bivariate Analysis of Knowledge Before and After Training on Making PMT from Local Food

Knowledge	Pre-test		Post-test		Difference	P-value
	n	Percentage	n	Percentage	n	
Good	4	10%	19	48%	15	<0.001
Sufficient	15	38%	21	52%	6	
Less	21	52%	0	0%	21	

DISCUSSION

The training on the preparation and processing of supplementary feeding (PMT) from local foods for posyandu cadres in handling undernourished children under five and pregnant women with chronic energy deficiency (CED) was implemented in Kaliasem, Sidetapa, Pedawa, and Tigawasa Villages, all of which fall under the working area of Puskesmas Banjar 1. Prior to the training, respondents completed a pre-test using a structured questionnaire. This was followed by sessions that provided materials and practical training on the preparation and processing of PMT from locally available foods. After the training, respondents completed a post-test using the same questionnaire to evaluate changes in knowledge.

The study, which involved 40 respondents, revealed that before the training, 52% of cadres demonstrated poor knowledge, 38% had sufficient knowledge, and only 10% had good knowledge regarding PMT processing. After the training, the distribution shifted significantly, with 52% of cadres categorized as having sufficient knowledge and 48% categorized as having good knowledge. These findings indicate that the training contributed to a substantial improvement in cadres' knowledge levels. Further analysis confirmed the positive impact of the intervention. As shown in Table 7, 21 cadres moved out of the "Poor" category, 6 cadres improved within the "Adequate" category, and 15 cadres advanced to the "Good" category. The Wilcoxon Signed-Rank Test produced a p-value of less than 0.05, demonstrating that the training had a statistically significant effect on improving the knowledge of posyandu cadres in managing malnourished toddlers and pregnant women with CED.

These results are consistent with previous studies. Research conducted by Naelasari and Nurmaningsih (2022) in the Tanjung Karang Health Center area showed that training in the production of locally sourced PMT effectively improved the knowledge of mothers of infants in preventing stunting. Similarly, Winnelia (2019) reported that PMT training had a positive impact on enhancing the knowledge of posyandu cadres. The alignment of findings across different studies reinforces the conclusion that training interventions play a critical role in strengthening community-based nutrition programs. Improved knowledge among posyandu cadres is essential, as they serve as frontline agents of change in the community. With

enhanced capacity, cadres are better equipped to educate families, promote balanced nutrition, and implement effective strategies to prevent and address malnutrition among infants and pregnant women. Strengthening their role through targeted training not only improves individual knowledge but also contributes to broader public health goals, particularly in reducing stunting and chronic energy deficiency at the community level.

A significant increase shows in the knowledge of cadres. This finding highlights the effectiveness of training interventions in enhancing cadres' knowledge. Several factors may influence these outcomes, including education level, training experience, length of service, skills, motivation, and the availability of infrastructure. Cadres with higher education levels tend to acquire knowledge more effectively, as they are better able to comprehend the material provided. Regular and structured training has proven to be highly effective in increasing cadres' knowledge, particularly regarding their duties, functions, and service practices (Damayanti et al., 2022). Other factors such as motivation, incentives, and infrastructure support also play an important role in strengthening cadres' knowledge and performance (Raniwati et al., 2022). Training methods that combine lectures, interactive discussions, and hands-on practice significantly improve cadres' understanding. Before training, most cadres were categorized as having insufficient knowledge; however, after training, the proportion of cadres with good knowledge increased sharply, reaching 90% (Carolia, 2021). This improvement not only enhances cadres' ability to identify and manage cases of undernourished toddlers but also strengthens their skills in providing community education and preparing balanced, nutritious menus based on local food ingredients (Poltekkes Kemenkes Jakarta II, 2023).

The knowledge level of posyandu cadres in handling nutritional problems is a crucial determinant of the success of public health programs, particularly in preventing and managing stunting and malnutrition among toddlers. Formal education and continuous training are key factors influencing cadres' knowledge. Research shows that ongoing training and mentoring significantly improve cadres' competencies, especially in anthropometric measurements and nutrition counseling. These improvements positively impact the quality of health services at posyandu and increase cadres' motivation in fulfilling their roles. The use of innovative educational media, such as nutrition wheel tools, has also been shown to enhance cadres' knowledge following educational interventions (Wadi et al., 2022). Cadres who receive regular training and supporting facilities, including modules, measuring tools, and educational media, tend to demonstrate stronger knowledge and skills in addressing nutritional problems within the community.

These results confirm that continuous and interactive nutrition education strengthens cadres' competence in posyandu services. Effective training combines theory with field practice, enabling cadres to understand concepts and apply them directly. A structured model that includes planning, organizing, mobilizing, and evaluation has been shown to significantly improve knowledge. For example, a one-group pretest–posttest study demonstrated that nutrition training not only increased cadres' knowledge but also reduced iron-deficiency anemia in the community (Zahrulianingdyah, 2013). Cadres' knowledge is also influenced by individual characteristics such as age, work experience, and motivation. Older cadres often

show better understanding of complex nutritional issues, while longer service provides more exposure to training and field practice. Motivation—whether internal or supported by family and community—plays a critical role, as highly motivated cadres are more proactive in seeking information, attending training, and applying knowledge (Damayanti et al., 2022).

Access to information and support from health workers further enhances cadres' capacity. Health workers remain the primary source of nutrition education, with most cadres receiving information on stunting and the first 1000 days of life (Chahyanto et al., 2024). Counseling, accompaniment during posyandu activities, adequate facilities, and community involvement all strengthen cadres' roles. Infrastructure such as accurate measuring tools and engaging educational media also improve performance, making nutrition programs more effective. Overall, cadres' knowledge in addressing nutritional problems is shaped by education and training, individual characteristics, and support from health workers and the community. Strengthening these factors through comprehensive and sustainable programs ensures cadres can contribute effectively to preventing and managing malnutrition. This approach not only improves the quality of posyandu services but also supports national efforts to reduce stunting and enhance the nutritional status of toddlers in Indonesia.

CONCLUSION

This study shows that training on the preparation and processing of supplementary feeding (PMT) using local food ingredients improved the knowledge of posyandu cadres in the Banjar 1 Health Center working area. The training strengthened cadres' ability to identify and manage cases of undernutrition in toddlers and pregnant women with chronic energy deficiency. In addition, it enhanced their skills in educating the community and preparing balanced, nutritious menus based on local food resources. These improvements highlight the importance of structured training programs in empowering cadres and supporting community-based nutrition interventions.

CONFLICT OF INTEREST

The authors stated there is no conflict of interest in this study.

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REFERENCES

- Carolia, N., 2021. Pemberdayaan Masyarakat Dalam Upaya Pemenuhan Gizi Keluarga Di Desa Karanganyar Lampung Selatan.
- Chahyanto, B.A., Purba, D.D., Doloksaribu, T.H., 2024. Pengetahuan Dan Sikap Kader Posyandu Tentang Gizi Pada Seribu Hari Pertama Kehidupan Dan Stunting 5, 8124–8137.
- Damayanti, D.F., Aprianti, E., Fatonah, O., Sulistiawati, R., 2022. Faktor-Faktor Yang Mempengaruhi Peran Kader Posyandu Dalam Upaya Pencegahan Stunting Di Wilayah Puskesmas Sungai Melayu Kabupaten Ketapang. *J. Kebidanan Khatulistiwa* 8, 8. <https://doi.org/10.30602/Jkk.V8i1.894>
- Faizul Haq, M.R., Irfanda, P.D., Ramadhani, F., Nurhasanah, W., Widiyarta, A., 2023. Pengaruh Program Pemberian Makanan Tambahan (Pmt) Terhadap Status Gizi Balita Desa Sumbersuko Kabupaten

Probolinggo. J. Pengabd. Kpd. Masy. Nusant. 4, 1964–1970.
<https://doi.org/10.55338/jpkmn.v4i3.1258>

Halisah, H., Dharma, A.S., Anjasmari, I.M.M., 2024. Efektivitas Program Pemberian Makanan Tambahan (Pmt) Untuk Penurunan Stunting Di Desa Muara Rintis Kecamatan Batang Alai Utara Kabupaten Hulu Sungai Tengah. *J. Manaj. Sube. Daya Mns.* 01.

Imansari, A., Madanijah, S., Kustiyah, L., 2021. The Effect Of Nutrition Education In Cadre Knowledge, Attitude, And Skills Of Nutrition Counselling In Integrated Service Post (Posyandu). *Amerta Nutr.* 1–7. <https://doi.org/10.20473/amnt.v5i1.2021>.

Kementerian Kesehatan RI, 2021. Petunjuk Teknis Pengelolaan Pemberian Makanan Tambahan Bagi Balita Gizi Kurang Dan Ibu Hamil Kurang Energi Kronis Berdasarkan Keputusan Menteri Kesehatan RI Nomor Hk.01.07/Menkes/4631/2021.

Masnah, C., Saputri, I.M., 2020. Faktor Risiko Gizi Kurang Pada Balita Di Puskesmas Paal V Kota Jambi. *Ris. Inf. Kesehat.* 9, 107. <https://doi.org/10.30644/rik.v9i2.451>

Naelasari, D.N., Nurmaningsih, 2022. Efektivitas Pelatihan Pembuatan Pmt Berbasis Pangan Lokal Dalam Meningkatkan Pengetahuan Ibu Balita Dalam Mencegah Stunting Di Wilayah Kerja Puskesmas Tanjung Karang. *Jambura J. Heal. Sci. Res.* 4, 921.

Nugraheni, A.N.S., Nugraheni, S.A., Lisnawati, N., 2020. Hubungan Asupan Zat Gizi Makro Dan Mineral Dengan Kejadian Balita Stunting Di Indonesia: Kajian Pustaka. *Media Kesehat. Masy. Indones.* 19, 322–330. <https://doi.org/10.14710/mkmi.19.5.322-330>

Nugraheni, N., Malik, A., 2023. Peran Kader Posyandu Dalam Mencegah Kasus Stunting Di Kelurahan Ngijo. *Lifelong Educ. J.* 3, 83–92. <https://doi.org/10.59935/lej.v3i1.198>

Poltekkes Kemenkes Jakarta li, 2023. Konsep Kesehatan Global Melalui Peran Poltekkes Kemenkes Dalam Transformasi Teknologi Kesehatan Dan Desa Binaan.

Ramlan, P., Sukri, P., Abdullah, M.T., Ibrahim, M.A., Ahmad, J., Adri, K., 2025. A Systematic Review Of Maternal And Child Health Policies In Addressing Stunting: Trends And Challenges. *J. Public Heal. Pharm.* 5, 119–130. <https://doi.org/10.56338/jphp.v5i1.6001>

Raniwati, L., Ernawati, Sari, N.I., Sari, Dewi Erlina Asrita, Astuti, H., 2022. The Factors Which Influence Cadres Performance In Posyandu. *J. Indones. Kebidanan* 6, 106–117.

Ri, K.K., 2025. Survei Status Gizi Indonesia.

Rika Fitri Diningsih, Wiratmo, P.A., Erika Lubis, 2021. Hubungan Tingkat Pengetahuan Tentang Gizi Terhadap Kejadian Kekurangan Energi Kronik (Kek) Pada Ibu Hamil. *Binawan Student J.* 3, 8–15. <https://doi.org/10.54771/bsj.v3i3.327>

Sengkey, S.W., Pangemanan, G.D.K.J.M., 2016. Analisis Kinerja Kader Posyandu Di Puskesmas Paniki Kota Manado Performance Analysis Of Cadres Posyandu In Puskesmas Paniki Manado. *Jikmu* 5, 491–502.

Sinaga, E.S., Rasyid, I.A., Mubarak, M.R., Sudharma, N.I., Nolia, H., 2023. Pemantauan Konsumsi Pemberian Makanan Tambahan (Pmt) Dalam Meningkatkan Berat Badan Balita Dengan Masalah Gizi. *Abdi Moestopo J. Pengabd. Pada Masy.* 6, 1–8. <https://doi.org/10.32509/abdimoestopo.v5i2.2236>

Wadi, M., Suaebah, S., Ginting, M., Wardhani, P., Puspita, W.L., 2022. Edukasi Media Roda Gizi Dapat Meningkatkan Pengetahuan Gizi Kader. *J. Vokasi Kesehat.* 8, 108. <https://doi.org/10.30602/jvk.v8i2.994>

Winnelia, F.S.R., 2019. Perbedaan Antara Pengetahuan Dan Keterampilan Kader Posyandu Sebelum Dan Sesudah Pelatihan Pemberian Makanan Tambahan Formula Dasar Modisco Iii Pada *J. Ber. Kesehat. X.*

- World Health Organization, 2025. Nutrition And Food Safety [Www Document].
- Zahrulianingdyah, A., 2013. Desain Model Pengembangan Diklat Gizi Yang Efektif Untuk Masyarakat Marginal. *J. Pendidik. Dan Kebud.* 19, 499–513. <https://doi.org/10.24832/jpkn.v19i4.306>
- Carolia, N., 2021. Pemberdayaan Masyarakat Dalam Upaya Pemenuhan Gizi Keluarga Di Desa Karanganyar Lampung Selatan.
- Chahyanto, B.A., Purba, D.D., Doloksaribu, T.H., 2024. Pengetahuan Dan Sikap Kader Posyandu Tentang Gizi Pada Seribu Hari Pertama Kehidupan Dan Stunting 5, 8124–8137.
- Damayanti, D.F., Aprianti, E., Fatonah, O., Sulistiawati, R., 2022. Faktor-Faktor Yang Mempengaruhi Peran Kader Posyandu Dalam Upaya Pencegahan Stunting Di Wilayah Puskesmas Sungai Melayu Kabupaten Ketapang. *J. Kebidanan Khatulistiwa* 8, 8. <https://doi.org/10.30602/jkk.v8i1.894>
- Faizul Haq, M.R., Irfanda, P.D., Ramadhani, F., Nurhasanah, W., Widiyarta, A., 2023. Pengaruh Program Pemberian Makanan Tambahan (Pmt) Terhadap Status Gizi Balita Desa Sumbersuko Kabupaten Probolinggo. *J. Pengabd. Kpd. Masy. Nusant.* 4, 1964–1970. <https://doi.org/10.55338/jpkmn.v4i3.1258>
- Halisah, H., Dharma, A.S., Anjasmari, I.M.M., 2024. Efektivitas Program Pemberian Makanan Tambahan (Pmt) Untuk Penurunan Stunting Di Desa Muara Rintis Kecamatan Batang Alai Utara Kabupaten Hulu Sungai Tengah. *J. Manaj. Sube. Daya Mns.* 01.
- Imansari, A., Madanijah, S., Kustiyah, L., 2021. The Effect Of Nutrition Education In Cadre Knowledge, Attitude, And Skills Of Nutrition Counselling In Integrated Service Post (Posyandu). *Amerta Nutr.* 1–7. <https://doi.org/10.20473/Amnt.v5i1.2021>.
- Kementerian Kesehatan Ri, 2021. Petunjuk Teknis Pengelolaan Pemberian Makanan Tambahan Bagi Balita Gizi Kurang Dan Ibu Hamil Kurang Energi Kronis Berdasarkan Keputusan Menteri Kesehatan Ri Nomor Hk.01.07/Menkes/4631/2021.
- Masnah, C., Saputri, I.M., 2020. Faktor Risiko Gizi Kurang Pada Balita Di Puskesmas Paal V Kota Jambi. *Ris. Inf. Kesehat.* 9, 107. <https://doi.org/10.30644/Rik.v9i2.451>
- Naelasari, D.N., Nurmaningsih, 2022. Efektivitas Pelatihan Pembuatan Pmt Berbasis Pangan Lokal Dalam Meningkatkan Pengetahuan Ibu Balita Dalam Mencegah Stunting Di Wilayah Kerja Puskesmas Tanjung Karang. *Jambura J. Heal. Sci. Res.* 4, 921.
- Nugraheni, A.N.S., Nugraheni, S.A., Lisnawati, N., 2020. Hubungan Asupan Zat Gizi Makro Dan Mineral Dengan Kejadian Balita Stunting Di Indonesia: Kajian Pustaka. *Media Kesehat. Masy. Indones.* 19, 322–330. <https://doi.org/10.14710/Mkmi.19.5.322-330>
- Nugraheni, N., Malik, A., 2023. Peran Kader Posyandu Dalam Mencegah Kasus Stunting Di Kelurahan Ngijo. *Lifelong Educ. J.* 3, 83–92. <https://doi.org/10.59935/Lej.v3i1.198>
- Poltekkes Kemenkes Jakarta li, 2023. Konsep Kesehatan Global Melalui Peran Poltekkes Kemenkes Dalam Transformasi Teknologi Kesehatan Dan Desa Binaan.
- Ramlan, P., Sukri, P., Abdullah, M.T., Ibrahim, M.A., Ahmad, J., Adri, K., 2025. A Systematic Review Of Maternal And Child Health Policies In Addressing Stunting: Trends And Challenges. *J. Public Heal. Pharm.* 5, 119–130. <https://doi.org/10.56338/jphp.v5i1.6001>
- Raniwati, L., Ernawati, Sari, N.I., Sari, Dewi Erlina Asrita, Astuti, H., 2022. The Factors Which Influence Cadres Performance In Posyandu. *J. Indones. Kebidanan* 6, 106–117.
- Ri, K.K., 2025. Survei Status Gizi Indonesia.
- Rika Fitri Diningsih, Wiratmo, P.A., Erika Lubis, 2021. Hubungan Tingkat Pengetahuan Tentang Gizi Terhadap Kejadian Kekurangan Energi Kronik (Kek) Pada Ibu Hamil. *Binawan Student J.* 3, 8–15. <https://doi.org/10.54771/Bsj.v3i3.327>



- Sengkey, S.W., Pangemanan, G.D.K.J.M., 2016. Analisis Kinerja Kader Posyandu Di Puskesmas Paniki Kota Manado Performance Analysis Of Cadres Posyandu In Puskesmas Paniki Manado. *Jikmu* 5, 491–502.
- Sinaga, E.S., Rasyid, I.A., Mubarak, M.R., Sudharma, N.I., Nolia, H., 2023. Pemantauan Konsumsi Pemberian Makanan Tambahan (Pmt) Dalam Meningkatkan Berat Badan Balita Dengan Masalah Gizi. *Abdi Moestopo J. Pengabd. Pada Masy.* 6, 1–8. <https://doi.org/10.32509/Abdimoestopo.V5i2.2236>
- Wadi, M., Suaebah, S., Ginting, M., Wardhani, P., Puspita, W.L., 2022. Edukasi Media Roda Gizi Dapat Meningkatkan Pengetahuan Gizi Kader. *J. Vokasi Kesehat.* 8, 108. <https://doi.org/10.30602/Jvk.V8i2.994>
- Winnelia, F.S.R., 2019. Perbedaan Antara Pengetahuan Dan Keterampilan Kader Posyandu Sebelum Dan Sesudah Pelatihan Pemberian Makanan Tambahan Formula Dasar Modisco Iii Pada *J. Ber. Kesehat.* X.
- World Health Organization, 2025. Nutrition And Food Safety [Www Document].
- Zahrulianingdyah, A., 2013. Desain Model Pengembangan Diklat Gizi Yang Efektif Untuk Masyarakat Marginal. *J. Pendidik. Dan Kebud.* 19, 499–513. <https://doi.org/10.24832/Jpnk.V19i4.306>