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Cadres' role in *Posyandu* revitalization as stunting early detection in Babakan Madang Sub-District, Bogor District

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Abstract

Stunting, the inability to reach one's full potential, still remains common in Indonesia. As a result of stunting's intergenerational consequences, many strategies have been conducted by both government and non-government organizations to tackle this issue, including nutrition-specific and sensitive interventions, with Integrated Health Service Post (*Posyandu*) revitalization as one of the key measures to provide valid, reliable, and up-to-date data to establish the early detection and management of stunting. Unfortunately, this role is sub-optimally performed due to the limited competence of the health volunteers (cadres) that correlates with the suppressed parents' motivation to visit a *Posyandu.* Moreover, their difficulties are exaggerated by the weak reporting and supervising system. This study aimed to evaluate the cadres' knowledge and practice change after a sequence of training to revitalize the *Posyandu*'s role. This quasi-experimental study involved treatment and control villages located in Babakan Madang Sub-District, Bogor District, from which 41 and 37 cadres participated, respectively: between August and November 2019. The treatment group received three consecutive months of structured training, which comprised different learning methods, namely, group discussions, role plays, games, and seminars about *Posyandu* and stunting management, maternal and child health, and nutritional assessment. The control group was only visited for observational activities. Changes in cadres' knowledge and practices were collected using structured quantitative questionnaires and analysed using the Wilcoxon test. Both groups shared a considerably similar practice of *Posyandu* management, but a significant improvement in cadres' knowledge was found in the intervention group after the training ($p < 0.001$) compared with the control group. Longer duration is needed to observe any behaviour change, as indicated by their practice of *Posyandu* management.

Keywords: *Posyandu* revitalization; stunting; cadres; trainings; knowledge.

1. Introduction

One of the biggest nutritional problems that remains unsolved in Indonesia is the high prevalence of stunting (measured by the length/height-for-age that is lower than −2 SD based on the median standard of the WHO growth chart for children) (WHO, 2018). Apart from the massive health programs that have been implemented by the government, the prevalence of stunting remains high and exceeds the WHO's recommendation (<20%); the prevalence rates of stunting were 36.8%, 37.2%, and 30.8% in 2007, 2013, and 2018, respectively (Ministry of Health Republic of Indonesia, 2007; 2013; 2018).

Stunting is a chronic malnutrition status related to food intake, infectious disease, maternal nutrition status, breastfeeding practice, socioeconomic (education and income) status, and

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hygiene and sanitation that impact the children in their later life (Black et al., 2008; WHO, 2018). Stunted children tend to have lower cognitive achievement, which corresponds to future lower income and higher fertility level; as parents, they potentially perform inappropriate parenting. This cycle is then responsible for the intergenerational transmission of poverty (Grantham-McGregor et al., 2007). This is disadvantageous not only for the individual but also the family and the nation for the productivity loss and human resource quality (reduction of future income by 20% and gross domestic product loss by 11% (The National Team for the Acceleration of Poverty Reduction (TNP2K), 2018). It will also be exaggerated by the high cost of treatment for any health complications and long-term effects of malnutrition, e.g., infection and non-communicable diseases (catastrophic diseases) or even deaths that will significantly increase the health care cost by the implementation of National Health Insurance (JKN) (Vorster & Kruger, 2007).

As one of the national priority sites for stunting management, Babakan Madang Sub-District, Bogor District, has a high prevalence of stunting (31.7%) compared with the national prevalence (30.8%) (Atin, 2018). Related to the stunting prevalence, most of the under-5 children in this area demonstrate inadequate energy intake (67.2%), unexclusively breastfed (61.9%), suffer from infectious diseases in the last 2 weeks (69.4%), and have mothers with low educational level (junior high school/secondary school or lower) (Yustika, 2019). Therefore, stunting management is an urgent agenda because it is highly related to the human resource quality in the future.

To tackle this issue, Indonesia, represented by the TNP2K, started both specific (health sector, focused on the first 1000 days of life) and sensitive (non-health sector; e.g., sanitation, education, and food safety) nutritional intervention in 2018 (The National Team for the Acceleration of Poverty Reduction (TNP2K), 2018). However, this measure is still considered ineffective in managing stunting, because it has a poor figure of its risk factors in the same period, such as worsened immunization profile (reduction of complete immunization proportion in 12–23-month-old babies from 59.2% to 57.9% and rise in reluctance from 8.7% to 9.2%), escalation of low birth weight babies (<2500 g) from 5.7% to 6.2%, and increase in anemia proportion among pregnant women from 37.1% to 48.9% (Ministry of Health Republic of Indonesia, 2018).

Ideally, *Posyandu* is the frontline for public health services with volunteer-staffed village health workers, or *kaders* (or cadres), as the main actors, health information providers, and examples of changes in healthy living behavior (Ministry of Health Republic of Indonesia, 2011).

Posyandu holds a strategic position to assess the magnitude of stunting problems in the community, including early detection of the most important determinants of stunting, such as nutritional intake of mothers and children, parenting, hygiene and sanitation, and many more (Rokx, Subandoro, & Gallagher, 2018).

Unfortunately, based on the report of the Undergraduate Student of Nutrition Science Department Internship in 2018, the *Posyandu's* performance is sub-optimal, indicated by the lack of cadres serving each *Posyandu* (<5 people), no permanent building to facilitate the activities, and irregular opening hours of *Posyandu*. Moreover, the *Posyandu's* meager performance is due to the impact of the low participation (less than 65%) of mothers to visit *Posyandu* (D / S) compared with the standard (under 85%), with no more than 50% of toddlers gaining desirable weight (N/D). Only 12%–22% of mothers and caregivers have adequate knowledge about complementary feeding. Ideally, health education regarding this issue is directly carried out by cadres through counseling on the *Posyandu's* open day. Therefore, efforts are needed to restore the function of *Posyandu* (revitalization) as the frontline in monitoring the nutritional status of mothers and infants, as well as preventing the transmission of infectious diseases through early immunization to prevent and manage stunting. These measures are in accordance with the Circular of the Minister of Home Affairs Number 411.3 / 1116 / SJ on June 13, 2001 concerning the Revitalization of *Posyandu*, which is an effort to improve the function and performance of a *Posyandu* (Ministry of Health Republic of Indonesia, 2011).

Trainings conducted by Zainafree and Mardiana on *Posyandu* management, anthropometry, nutrition counseling in Tambakrejo Village, Blitar, suggested an increasing motivation and performance of cadres in *Posyandu* recording and reporting. Cadres' skills in anthropometric measurements also improved after training (Zainafree & Mardiana, 2015). This is critical because cadres who are already experts in anthropometric measurements can assess the nutritional status of infants and toddlers to detect the risk of malnutrition in them. In addition, cadres can provide counseling to pregnant and lactating women regarding the prevention of stunting in the first 1000 days of a child's life, which has been missing or has not been a concern in the community.

Considering this situation, we (authors and local stakeholders) agreed that the main problem of Babakan Madang Village was the lack of cadre skills in the comprehensive implementation of the five Posyandu posts. This problem resulted in the lack of visits and knowledge of mothers of under-five about the importance of exclusive breastfeeding and appropriate complementary

feeding (MP-ASI), as well as the prevention of diarrhea and infections. Thus, this program is expected to revive the *Posyandu's* function as the main driver of health services for the community (Community Health Efforts / UKM) so that the community can become even closer to the *Posyandu*. In the end, if the *Posyandu* becomes an important part of the community, stunting can be more easily and quickly detected, so it will be handled earlier as well.

This study employed the structured Training of Trainers (ToT) concept, which consisted of seminars, small group discussions, and simulation or role play using prepared education media to optimize information acceptability and retention among the total population of cadres in Sumur Batu Village, Babakan Madang District. This work has not been conducted before in these areas or even in the national level. We understand that most of the trainings to the *Posyandu* cadres are provided to only few of them or to their representatives in the village, so knowledge transfer is urgently needed. Unfortunately, in most cases, knowledge transfers never occurred, or information may be missing.

2. Methods

This work is a quasi-experimental study (approved by The Research and community Engagement Ethical Committee Faculty of Public Health Universitas Indonesia with ethical clearance number 257/UN2.F10/PPM.00.02/2019) using total population sampling for the cadres that were recruited from Sumur Batu (Intervention Group) and Babakan Madang Village (Control Group), Babakan Madang Sub-District, Bogor District, participated by 41 and 37 cadres, respectively. This selection was based on the prevalence of stunting, exposure of nutrition intervention given by any institutions, and *Posyandu* implementation compared with other areas in the sub-district. Compared with other villages observed in the literature, Sumur Batu has the highest prevalence of stunting (20.6%), limited number of nutrition intervention programs by any institution, and poor implementation of *Posyandu* (Putri, 2019). All the activities were conducted from August to November 2019. The list of variables observed in this study is shown in Table 1.

Table 1. List of Variables Observed and Measured and Methods Used

List of Variables	Measurement	Methods Used
1. The characteristics of the cadre	Using structured and tested questionnaire, including age, educational background, time spent as the cadre, reasons to be one, appreciation received so far.	Self-reported
2. Cadre's knowledge about nutrition and health	Using structured and tested questionnaire, to identify their knowledge, especially among the critical live cycle period, namely: a. Exclusive breastfeeding. b. Early initiation of breastfeeding. c. Feeding practices. d. Under-five children's growth and development monitoring. e. Immunizations. f. Childcare. g. *Posyandu* database and reporting (SKDN Block).	Interview
3. Cadres' practice in *Posyandu* management (before, on, and the day after)	Using structured questionnaire, including a. Announcement of *Posyandu* open day, coordination within the group and with other stakeholders, preparing the supplementary feeding for children in need, and preparing and mastering the whole health and nutrition educational information to be delivered to the participants. b. Data updating for newlywed couples, expectant mothers, pregnant women, breastfeeding mothers, and mothers of under-five children. c. Child growth and development assessment and recording. d. Mid-upper arm circumference measurement for expectant mothers and pregnant women. e. Counseling and nutrition education to follow up point (c). f. Home visits. g. Data reporting (using the SKDN Block) and periodic meeting with relevant stakeholders.	Interview. Evaluated by score: 1: always 2: often 3: sometimes 4: never The higher the score, the worse the *Posyandu* management is.

Posyandu revitalization was carried out by optimizing the implementation of five *Posyandu* tables, including 1) registration, 2) anthropometric measurement, 3) *Kartu Menuju Sehat* recording, and 4) nutritional counseling through various trainings to empower the cadres, considering that Post 5 (health care services, such as immunization and supplementation) is conducted by health care professionals. The training material provided is related to the implementation of the five *Posyandu* tables (including anthropometric measurements), as well as nutritional education related to critical life cycle (e.g., maternal and child health), so that

cadres can provide this information to pregnant, lactating, and infant-toddler mothers after they receive their training. To maximize the acceptability and retention of information cadres receive, the team employed different methods of trainings, including seminars, small group discussions, and simulations or role plays using educational media prepared in advance (Luca & Heal, 2006). The results of the small group discussions were then presented by one of the members to all cadres and clarified by the midwife and expert team.

The ToT method was employed to enhance basic nutritional knowledge to enable the cadres to provide counseling on nutrition to pregnant women, breastfeeding mothers, and infant-toddler mothers without any need to rely on visits from midwives or nutritionists from the *Puskesmas*, as well as to improve data integration and recording (Positive Deviance Resource Centre (PDRC), 2015). The trainings were conducted once every month for three consecutive months, starting from August to October 2019.

Based on field experience, we identified several constraints and lessons learned from the methods employed. There were two main constraints, namely, challenges of having the same participants in the subsequent training sessions and having all the important stakeholders be fully involved in the training, especially the village midwife due to her packed schedule and a huge age range of cadres that will influence their ability to accept and retain the health information given. However, we also observed several notable findings from this study, including 1) the enthusiasm of cadres toward various methods of learning, including simulations/role plays and games that keep them focused on the materials delivered (type, content, and systematic structure), 2) delivering health information using their own local language and relevant examples to their context and situation was believed to improve their acceptance on the information, and 3) individual approach to cadres will increase their motivation to continue coming to subsequent sessions because this work was a pre- and post-test study that required persistent attendance.

Univariate analysis was performed to describe the frequency distribution of the cadres' characteristics. Bivariate analysis was employed to determine whether the Wilcoxon test was used to determine any significant changes ($p < 0.05$) in cadres' knowledge and practices in the intervention group compared with the control group as the data were not normally distributed.

3. Results and Discussion

This study involved 78 cadres, which consisted of 41 and 37 cadres in the intervention and control areas, respectively. The characteristics of the cadres are shown in Table 2 and 3.

Table 2. Time Spent as a Cadre in Both the Intervention and Control Groups

Variable	Treatment Group	N	Min	Max	Mean ± SD
Age (years)	Intervention	41	17	65	40.00±10.72
	Control	37	19	60	41.97±9.91
Time Spent as a Cadre (years)	Intervention	41	0	20	4.34 ± 4.37
	Control	37	1	28	10.18 7.70

As shown in Table 2, in the control area, cadres have served mothers, babies, and under-five children to receive health care in a *Posyandu* for more than 10 years, which is about twice longer than cadres working in the intervention area. Both the intervention and control areas had similar ages of cadres.

Table 3. Characteristics of the Cadres

	Variable	Intervention Group N = 41 (n) (%)	Control Group N = 37 (n) (%)
Occupation	Household Mother	27 (65.9)	28 (75.7)
	Housemaid	8 (19.5)	1 (2.7)
	Seller	3 (7.3)	3 (8.1)
	Student	1 (2.4)	0 (0.0)
	Civil Servant/Teacher/Retirement	0 (0.0)	1 (2.7)
	Others	2 (4.9)	4 (10.8)
Education Level	Not graduated from Elementary School	0 (0.0)	5 (13.5)
	Elementary School	15 (36.6)	10 (27.0)
	Junior High School	18 (49.3)	9 (24.3)
	Senior High School	8 (19.5)	10 (27.0)
	University	0 (0.0)	3 (8.1)
Marital Status	Married	38 (92.7)	33 (89.2)

	Variable	Intervention Group N = 41 (n) (%)	Control Group N = 37 (n) (%)
	Single	1 (2.4)	1 (2.7)
	Divorced	1 (2.4)	3 (8.1)
	Others	1 (2.4)	0 (0.0)
Motivation to be a Cadre	Voluntary	37 (90.2)	33 (89.2)
	Appointed	2 (4.9)	1 (2.7)
	To be paid	1 (2.4)	0 (0.0)
	To get complement	0 (0.0)	1 (2.7)
	Others	1 (2.4)	2 (5.4)
Number of Appreciation Received (money, free medication, uniform, free voucher)	None	3 (7.3)	0 (0.0)
	1	35 (85.4)	11 (29.7)
	2	2 (4.9)	8 (21.6)
	3	1 (2.4)	

Table 3 illustrates that both groups mostly shared similar occupations, educational levels, marital status, and motivation to be a cadre. Moreover, they were mainly household mothers with low educational background, married, and working voluntary to help the community. More appreciation was obtained among cadres in the control group, which might be related to the longer time they spent as cadres compared with those in the intervention group.

In the baseline level (pre-test), no difference was found between the control and intervention groups in both knowledge and practical skills among cadres, indicating that they were eligible for further comparison (Table 4). However, by the end of the study, compared with the control group, there was a significant enhancement ($p < 0.001$) of knowledge among cadres in the intervention group, despite having a slight improvement in practices; a high score represents low *Posyandu* management quality. In terms of practices, both the intervention and control groups did not show any improvement. Indeed, the control group showed a few slopes of both knowledge and practice, although the differences were not significant (Table 4).

Table 4. Changes in knowledge and practice between the intervention and control groups after sequential trainings

Variable	Treatment Group	n	Time	Min	Max	Median	Mean ± SD	p-value¶
Knowledge	Intervention	34	Pre	7	13	11	10.47±1.4	0.001***
			Post	11	14	13.5	13.09±11.1	
	Control	29	Pre	5	12	11	10.55±1.38	0.993
			Post	8	12	10	10.38±1.21	
Practice	Intervention	35	Pre	25	88	40	42.34±14.94	0.221
			Post	28	82	38	40.94±10.49	
	Control	25	Pre	24	72	39	40.48±10.70	0.193
			Post	26	73	40	41.12±10.46	

¶ = based on Wilcoxon test

*** = Level of significance p-value < 0.001

No significant result was found in their practices in managing *Posyandu*, so the analysis then focused on the significant changes in knowledge based on each question answered by the intervention group. The questions were on the following topics: the importance of referring the under-five children who did not gain weight for two consecutive months to the *Puskesmas*, suggested period of complete immunization, frequency of complementary feeding for 9–12 months that was supposed to be 3–4 big meals and 1–2 snacks, skin-to-skin contact as the requirement of initial breastfeeding, benefits of exclusive breastfeeding to naturally postpone another pregnancy, treating fever with warm instead of cold wipes, as well as hygiene and sanitation as the determinants of stunting ($p < 0.05$; Table 5).

Table 5. Analysis of knowledge improvements in the intervention group identified by each question

No	Questions	% of participants answered correctly (N=35)		p-value
		Pre-Test	Post-Test	
1	Referring infants who do not gain weight	89	100	0.044*
2	Complete immunization	50	71	0.049*
3	*Posyandu* information system (SIP) utilization	94	97	0.571
4	Complementary feeding frequency	66	100	0.001***

No	Questions	% of participants answered correctly (N=35)		p-value
		Pre-Test	Post-Test	
5	Complementary feeding volume	91	97	0.324
6	SKDN Block	80	91	0.211
7	Complementary food texture	77	74	0.786
8	The procedure of early breastfeeding initiation	80	100	0.006**
9	Oral health for children	83	94	0.16
10	The advantages of exclusive breastfeeding	49	97	0.001***
11	Referring infants who suffer from diarrhea to *Puskesmas*	94	100	0.16
12	Fever management	34	100	0.001***
13	Determinants of stunting	74	91	0.032*
14	SKDN Block	86	94	0.263

* = Level of significance p-value < 0.05
** = Level of significance p-value < 0.01
*** = Level of significance p-value < 0.001

The results revealed that most of the cadres had limited knowledge about health and nutrition, including initial breastfeeding, exclusive breastfeeding, complementary feeding, child care, immunization, and stunting, despite dedicating themselves as cadres for a long time period (approximately 5–10 years) (Mudjianto et al., 2003). This finding was unfortunate, because inappropriate knowledge of cadres regarding these issue potentially affects both mothers' knowledge and practices on breastfeeding and child feeding (Abebe, Haki, & Baye, 2016). In addition, inadequate awareness of immunization is considered a direct cause of stunting or malnutrition (Müller & Krawinkel, 2005) and a direct, immediate cause, not an underlying indirect cause, of death (Habicht, 2008). Most of them were assumed to run the *Posyandu* as a routine activity without focusing on the health content and the important mission of the *Posyandu* as the front line of health care, especially early detection of stunting. Undernutrition and infection are sub-optimally discovered even from the grass root (Hoko, Kurniawati, & Maryanti, 2019). This issue is exaggerated by the limited support from the local government in terms of capacity to build programs for the cadres, as well as appropriate remuneration to encourage cadres' performance, despite the high demand subjected to them (Iswarawanti, 2010).

However, this study showed significant improvements in knowledge among cadres in the intervention group. This finding was believed to be the result of the trainings they received with several modified methods designed to increase their knowledge and confidence in delivering health information, specifically about maternal health and stunting, with longer retention (Kosasih, Purba, & Sriati, 2018; Luca & Heal, 2006; Megawati & Wiramihardja, 2019; Tumbelaka et al., 2018). Similar studies conducted in four villages in Ciranjang Sub-District showed that participatory trainings, including role play and interactive discussion, boosted cadres' knowledge, skills, and confidence in health promotion; therefore, community participation (D/S) can be improved as an aftereffect, and it can even increase cadres' motivation in performing well (Tumbelaka et al., 2018).

Unfortunately, trainings that were given for 3 months within the duration of this study were unable to capture further significant changes of their practices in managing the *Posyandu*. Thus, a longer time is needed to stimulate and educate stakeholders to eventually improve their practice and behavior. Someone needs around 12 months to start the stages of change model from "pre-contemplation" (no intention to take actions that can potentially change by increasing awareness of the need to change and internalizing related information) to "action" stage (Parmar & Taylor, 2010). However, Table 4 shows a slight shift in practice in the intervention group toward a better score (2 points of improvements), while the control group showed a decline (1 point). This is expected to be observed further along with the longer duration of the study. A previous study showed that post-training observation on cadres' practices needs to be conducted for at least three consecutive months to be able to show any qualitative changes in a larger population (46 *Posyandu's*) (Tumbelaka et al., 2018). Nonetheless, attitude, motivation, and counseling performance might not be significantly different between the intervention and control groups during the timeframe of the study, due to their reliance to social learning and established knowledge, which was regrettably found to be subprime in this study population (Rahmawati, Madanijah, Anwar, & Kolopaking, 2019).

Interestingly, the control group showed a similar score of practice in managing the *Posyandu* compared with the intervention group, despite having no health promotion of training in this study. This result was presumably related to the high educational background and appreciation received, namely, periodic incentives, uniforms, and free medication, which were considered to build their commitment and be a strong motivation for them to perform well (Bidayati, 2017).

Nevertheless, apart from the limited time, this study showed that a simple health promotion, in the form of sequence trainings that employ modified methods, including interactive seminars

and small group discussions, can potentially increase cadres' knowledge; this change is expected to influence their behavior and performance as the front line of health care in Indonesia (The Health Foundation, 2012). This study also emphasized the importance of more comprehensive health information related to the first 1000 days of life, stunting detection, and child care compared with previous studies (Megawati & Wiramihardja, 2019; Tumbelaka et al., 2018). However, further observations on whether or not this intervention can effectively change cadres' practices is critical as behavior change is the heart of health promotion without neglecting the social and cultural context and allows the decision makers to better understand the best strategy in revitalizing *Posyandu* and manage stunting even better (Van Den Broucke, 2014).

4. Conclusion

In summary, this study suggested that the increase in cadres' knowledge about maternal health, childcare, and stunting is related to the trainings delivered, yet further observations need to be conducted to ensure that this intervention is effective tool in changing their behaviour and managing *Posyandu* even better. This is considered critical in the early detection of any health care problems in the household level, including stunting in the community. This study can support the government to better understand the real problem and tackle it effectively and efficiently. This study can also be a reference for the general community to develop structured, attractive, and effective trainings that aim to improve certain important stakeholders' knowledge, apart from usual focus group discussions. Further studies should capture the changes in cadres' practices and behaviour with longer observation and intervention duration.

Author Contribution

Nurul Dina Rahmawati and Ratu Ayu Dewi Sartika conceived of the presented idea. Nurul Dina Rahmawati and Ratu Ayu Dewi Sartika developed the theory and performed the computations. Nurul Dina Rahmawati and Ratu Ayu Dewi Sartika verified the analytical methods. Ratu Ayu Dewi Sartika encouraged Nurul Dina Rahmawati to investigate strength and limitation of the study and supervised the findings of this work. All authors discussed the results and contributed to the final manuscript.

References

Abebe, Z., Haki, G. D., & Baye, K. (2016). Health Extension Workers' Knowledge and Knowledge-Sharing Effectiveness of Optimal Infant and Young Child Feeding Are Associated with Mothers' Knowledge and Child Stunting in Rural Ethiopia. *Food and Nutrition Bulletin*, *37*(3), 353–363. https://doi.org/10.1177/0379572116651209

Atin, A. I. (2018). *Hasil Survey Pengetahuan Ibu terkait Kesehatan Ibu dan Anak di Desa Babakan Madang, Kecamatan Babakan Madang, Kabupaten Bogor Tahun 2018* [Undegraduate thesis, Universitas Indonesia]. Departemen Gizi, Fakultas Kesehatan Masyarakat, Universitas Indonesia.

Bidayati, U. (2017). *Commitment , Motivation, and Performance of Posyandu Cadres*. *131*(International Conference of Organizational Innovation (ICOI)), 93–97. https://doi.org/10.2991/icoi-17.2017.27

Black, R. E., Allen, L. H., Bhutta, Z. A., Caulfield, L. E., de Onis, M., Ezzati, M., … & Rivera, J. (2008). Maternal and child undernutrition: global and regional exposures and health consequences. *The Lancet*, *371*(9608), 243–260. https://doi.org/10.1016/S0140-6736(07)61690-0

Grantham-McGregor, S., Cheung, Y. B., Cueto, S., Glewwe, P., Richter, L., & Strupp, B. (2007). Developmental potential in the first 5 years for children in developing countries. *Lancet*, *369*(9555), 60–70. https://doi.org/10.1016/S0140-6736(07)60032-4

Habicht, J. P. (2008). Malnutrition kills directly, not indirectly. *The Lancet*, *371*(9626), 1749–1750. https://doi.org/10.1016/S0140-6736(08)60755-2

Hoko, S. S., Kurniawati, N. D., & Maryanti, H. (2019). Hubungan Pengetahuan Dan Sikap Kader Posyandu Tentang Tugas Pengembangan Kader Terhadap Tindakan Penemuan Kasus Tb Paru Di Puskesmas Lite. *Indonesian Journal of Community Health Nursing*, *2*(2), 50–56. https://e-journal.unair.ac.id/IJCHN/article/view/11918/6853

Iswarawanti, D. N. (2010). Posyandu Cadres: Their Roles and Challenges in Empowerment for Improving Children Nutritional Status in Indonesia. *Jurnal Manajemen Pelayanan Kesehatan*, *13*(4), 169–173. https://media.neliti.com/media/publications/22566-ID-kader-posyandu-peranan-dan-tantangan-pemberdayaannya-dalam-usaha-peningkatan-giz.pdf

Kosasih, C. E., Purba, C. I. H., & Sriati, A. (2018). Upaya Peningkatan Gizi Balita Melalui Pelatihan Kader Kesehatan di Desa Cilumba dan Gunungsari Kabupaten Tasikmalaya. *Media Karya Kesehatan, 1*(1). https://doi.org/10.24198/mkk.v1i1.16945

Luca, J., & Heal, D. (2006). Is role-play an effective teaching approach to assist tertiary students to improve teamwork skills?. *ASCILITE 2006 - The Australasian Society for Computers in Learning in Tertiary Education*, *1*(2006), 473–477. https://ro.ecu.edu.au/ecuworks/2263/

Megawati, G., & Wiramihardja, S. (2019). Peningkatan Kapasitas Kader Posyandu dalam Mendeteksi dan Mencegah Stunting di Desa Cipacing Jatinangor. *Jurnal Aplikasi Ipteks Untuk Masyarakat*, *8*(3), 154–159. https://doi.org/10.24198/dharmakarya.v8i3.20726

Ministry of Health Republic of Indonesia. (2007). *Basic Health Survey*. https://labdata.litbang.kemkes.go.id/images/download/laporan/RKD/2007/lap_rkd07.pdf

Ministry of Health Republic of Indonesia. (2011). *General Guidelines for Posyandu Management*. http://puskesmas-oke.blogspot.com/2009/04/pengelolaan-posyandu-lansia

Ministry of Health Republic of Indonesia. (2013). *Basic Health Survey*. https://labdata.litbang.kemkes.go.id/ccount/click.php?id=1

Ministry of Health Republic of Indonesia. (2018). *Basic Health Survey*. https://labdata.litbang.kemkes.go.id/ccount/click.php?id=19

Mudjianto, T. T., Hidayat, T. S., Hermina, Luciasari, E., Afriansyah, N., & Fuada, N. (2003). Faktor-Faktor Positif Untuk Meningkatkan Potensi Kader Posyandu Dalam Upaya Mencapai Keluarga Sadar Gizi (KADARZI). *Nutrition and Food Research*, *26*(2), 2003. https://www.neliti.com/publications/156262/faktor-faktor-positif-untuk-meningkatkan-potensi-kader-posyandu-dalam-upaya-menc

Müller, O., & Krawinkel, M. (2005). Malnutrition and health in developing countries. *Cmaj*, *173*(3), 279–286. https://doi.org/10.1503/cmaj.050342

Parmar, S. M., & Taylor, R. (2010). *Health Promotion & Behavioural Change Theory*. 1–14. https://pdf4pro.com/cdn/health-promotion-amp-behavioural-change-theory-2d602.pdf

Positive Deviance Resource Centre (PDRC). (August, 2015). *Kegiatan Monitoring Revitalisasi Posyandu di Sumatera Selatan.* http://www.pdrc.or.id/index.php/pdrc-news/137-kegiatanmonitoring-%0Arevitalisasi-posyandu-di-sumatera-selatan-agustus-2015

Putri, P. N. (2019). *Determinan Lingkungan Kejadian Stunting pada Balita Usia 6-59 Bulan dan Pemetaannya di Kecamatan Babakan Madang, Kabupaten Bogor, Tahun 2019* [Undergraduate thesis, Universitas Indonesia]. Departemen Gizi, Fakultas Kesehatan Masyarakat, Universitas Indonesia.

Rahmawati, S. M., Madanijah, S., Anwar, F., & Kolopaking, R. (2019). The effectiveness education of counseling of infant and young child feeding as intensive to improve counseling performance of Posyandu cadres in Bogor, Indonesia. *International Journal of Community Medicine and Public Health*, *6*(6), 2280–2288. https://dx.doi.org/10.18203/2394-6040.ijcmph20192138

Rokx, C., Subandoro, A., & Gallagher, P. (2018). *AIMING HIGH: Indonesia's Ambition to Reduce Stunting*. Washington D.C.: International Bank for Reconstruction and Development/The World Bank.

The Health Foundation. (2012). *Evidence Scan: Quality Improvement Training for Healthcare Professionals*. London, United Kingdom: The Health Foundation.

The National Team for the Acceleration of Poverty Reduction (TNP2K). (2018). *Gerakan Nasional Pencegahan Stunting dan Kerja Sama Kemitraan Muli Sektor*. Jakarta: TNP2K.

Tumbelaka, P., Limato, R., Nasir, S., Syafruddin, D., Ormel, H., & Ahmed, R. (2018). Analysis of Indonesia's community health volunteers (kader) as maternal health promoters in the community integrated health service (Posyandu) following health promotion training. *International Journal Of Community Medicine And Public Health*, *5*(3), 856-863. https://doi.org/10.18203/2394-6040.ijcmph20180462

Van Den Broucke, S. (2014). Needs, norms and nudges: The place of behaviour change in health promotion. *Health Promotion International*, *29*(4), 597–600. https://doi.org/10.1093/heapro/dau099

Vorster, H. H., & Kruger, A. (2007). Poverty, malnutrition, underdevelopment and cardiovascular disease: A South African perspective. *Cardiovascular Journal of Africa*, *18*, 321–324. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3975540/

WHO. (2018). *Reducing Stunting in Children: Equity Considerations for Achieving Global Nutrition Target 2025*. https://www.cabdirect.org/cabdirect/abstract/20183328353

Yustika, F. D. (2019). *Faktor Risiko Kejadian Stunting pada Balita Usia 24- 59 Bulan di Kecamatan Babakan Madang, Bogor Tahun 2018* [Undegraduate thesis, Universitas Indonesia]. Departemen Gizi, Fakultas Kesehatan Masyarakat, Universitas Indonesia.

Zainafree, I., & Mardiana. (2015). IBM Revitalisasi Posyandu Desa Tambakrejo. *Rekayasa: Jurnal Penerapan Teknologi dan Pembelajaran*, *13*(2), 90–106. https://doi.org/10.15294/rekayasa.v13i2.5603