EFFECT OF COMPLEMENTARY FEEDING TRAINING ON POSYANDU CADRES KNOWLEDGE AS STUNTING PREVENTION ON 6 – 12 MONTHS CHILDREN

Surmita Surmita [1,2],* Rini Sekartini[3], Aria Kekalih[4], Aryono Hendarto[3], Titis Prawitasari[3], Dian Novita Chandra[5], Rini Andriani[6], Roro Nur Fauziyah[2]

[1]Doctoral Program in Nutrition Science, Faculty of Medicine, Universitas Indonesia, Jakarta, Indonesia
[2]Department of Nutrition, Poltekkes Kemenkes Bandung, Bandung, Indonesia
[3]Department of Child Health, Faculty of Medicine Universitas Indonesia – Dr. Cipto Mangunkusumo General Hospital, Jakarta, Indonesia
[4]Department Community Medicine, Faculty of Medicine, Universitas Indonesia, Jakarta, Indonesia
[5]Department of Nutrition, Faculty of Medicine Universitas Indonesia - Dr. Cipto Mangunkusumo General Hospital, Jakarta, Indonesia
[6]Department of Child Health, Faculty of Medicine, Universitas Tanjungpura, Pontianak, Indonesia
Email: surmita.taufik@gmail.com

Abstract, Introduction: Complementary feeding period is one the critical period in the first 1000 day of life for stunting prevention. There are many problems found in complementary feeding practices related to low mother's knowledge , such as too early introduction of complementary feeding, low frequency of complementary feeding, low variety and diversity of food ingredients. Posyandu cadre can help mothers become more knowledgeable about complementary feeding.

Method: Design of this research is one-group pre-post design to measure cadre knowlodge relate to complementary feeding for children 6 – 12 months. Research conducted in West Bandung District in 6 stunting loci villages, Kertajaya, Kertamulya, Mekarjaya, Cihampelas, Sirnajaya and Gunung Halu Villages. Complementary feeding training material focus on complementray feeding for 6 – 12 months. Training conduct online using zoom meeting platform.

Objectives: To analyzed impact of complementary feeding on posyandu cadre knowledge as stunting prevention in children 6 – 12 months.

Result: Based on paired t-test show that there significant different between pre-test and post-test result on posyandu cadre knowledge ($p<0.001$).

Conclusion: There are significant effect of posyandu cadre training on knowledge related complementary feeding for 6 – 12 months as stunting prevention in the first 1000 days of life

Keywords: complementary feeding, posyandu cadre, training, knowledge

.

DOI 10.34011/icihcce.v5i1.253

INTRODUCTION

Stunting is a long-term lack of nutrition characterized by a lack of height to age[1]. Reduced productivity, risk of non-communicable diseases, and neurocognitive development are all strongly correlated with stunting[2].

According to data from UNICEF, WHO, and the World Bank, approximately 144 million children worldwide are affected by stunting. In South Eastern Asia, the prevalence of stunting in children under 5 years old was 13,5 million (13,5%) in 2020 [3]. The Basic Health Research study reported a stunting prevalence in Indonesia of 30,18% in 2018. In West Java Province, the prevalence of stunting was 31,1%, which is higher than the national average [4]. The Survey of Children Nutritional Status, known as Survey Status Gizi Balita (SSGBI), reported a stunting prevalence of 24,4% in 2021 [5] and 21,6% in 2022[6]. The Indonesian government had set a target of 14% prevalence by 2024, although these figures are higher than that[7].

During complementary feeding children are at high risk of undernutrition [8]. Research shows that growth faltering occurs during the first 1000 days of life. Research in Srilanka found weight faltering prevalence 46-1% - 50, 4% in 4 – 12 months[9]. Other studies found that the greatest decrease in z score height for age occurred during the complementary feeding period of 6 - 24 months. Growth faltering in height of 10 cm during the first 3 years, 50 percent occurred during the 6-24 months and 20 percent during pregnancy, 20 percent during 0-6 months and 10 percent during 2 to 3 years[10, 11].

There are many problems found in complementary feeding practices related to low mother's knowledge , such as too early introduction of complementary feeding, low frequency of complementary feeding, low variety and diversity of food ingredients [12,13-16, 17]. The prevalence of children in Indonesia with minimum dietary diversity, minimum meal frequency and minimum acceptable diet was 54,3%, 71,8% and 37,6% respectively[18]. The consistency and thickness of complementary feeding porridge also found not appropriate to child age [15, 16, 19]. The consistency and thickness of complementary feeding porridge also varies widely among mothers[16]. Posyandu cadre can help mothers become more knowledgeable about complementary feeding.

Posyandu cadres are human resources who has the potential to assist health workers in community empowerment to support the realization of people who have a healthy lifestyle. The task of cadres related to nutrition is to collect data toddlers, do the weighing and record it in the Kartu Menuju Sehat (KMS), providing additional food, distributing vitamin A, conducting nutritional counseling and home visits to mothers who are breastfeeding and mothers who have toddler. Cadres are expected to play an active role and be able motivator and community educator. Cadre is expected to be able to bridge between officers or health worker with the community and help the community identify and address their health needs alone. Cadres are also expected to provide information for authorized health officials who may not be able to reach the community directly, as well as being able to encourage the health officials in the health system to understand and respond to community needs. Cadres can help mobilizing community resources, advocating for the community and build local capacity[20].

DOI 10.34011/icihcce.v5i1.253

The government carries out various health programs in the community through community health cadres in the community. The role of cadres is very significant in helping health workers make efforts to improve health through promotion of providing information and education. Cadres know how to approach local communities effectively so that they have the ability to communicate with the society[21].

Cadres have an important role in achieving a fair and equitable level of public health. The performance of cadres is a parameter for the success of the Posyandu activity program in the community[22]. A study conducted by Rahmawati, 2019. It involved Posyandu cadres to conduct infant and child feeding counseling. Quasi-experimental research design with one group pre-post test design involved 78 samples of mothers from infants and children aged 6-24 months. Infant and child feeding counseling carried out by posyandu cadres was able to increase the value of PMBA practices for mothers of infants and children aged 6-24 months, in particular increasing the consumption of animal side dishes, shape, thickness and variety of food[23].

West Java, located on Java Island, have stunting prevalence 24,5%, surprassing the national rate[4]. One specific area in West Java, West Bandung Regency, is particularly concerning as it has has 20 stunting loci villages. In 2021, the prevalence of stunting in West Bandung Regency was 29,6% and and 27,3% in 2022[5]. Research has shown that children aged 6-23 months in this region face issues with energy, fat and carbohydrate intake which have been significantly associated with stunting[24].

Based on the background, researchers are interested in conducting research on breastfeeding complementary food training for cadres as an effort to prevent stunting in children aged 6-12 months in West Bandung District.

METHODS

Design of this research is one-group pre-post design to measure cadre knowlodge relate to complementary feeding for children 6 – 12 months. Research conducted in West Bandung District in 6 stunting loci villages, Kertajaya, Kertamulya, Mekarjaya, Cihampelas, Sirnajaya and Gunung Halu Villages. Complementary feeding training material focus on complementray feeding for 6 – 12 months. Training conduct online using zoom meeting platform.

Training was conducted in November 2023. Before training participant filled the pre-test form and after training filled the post-test form. The question consist of complementary feeding aspect for 6 – 12 months such as definition, frequency, portion, snack, type of food, and food preparation and menu samples using local food.

Using SPSS 27, univariate and bivariate data analysis was performed. Due to the normal distribution of the data, paired T-test was used for bivariat analysis. This research have been ethical approved by Komite Etik Penelitian Kesehatan RSUP Nasional Dr Cipto Mangunkusumo Medical Faculty Universitas Indonesia.

RESULTS AND DISCUSSION

Characteristic of cadres that followed complementary feeding training is described below on Table 1.

DOI 10.34011/icihcce.v5i1.253

Table 1. Characteristic of Cadre

Characteristics		n	%
Age (years)	< 30	1	3.3
	30 - 40	7	23.3
	41 – 50	13	43.3
	< 50	9	30.0
Experience (years)	< 5	6	20.0
	5 – 10	10	33.3
	> 10	14	46.7
Position	Leader	21	70.0
	Cadre	9	30.0
Posyandu category	Pratama	2	6.7
	Madya	5	16.7
	Purnama	11	36.7
	Mandiri	12	40.0
Educational	Primary	1	3.3
	Lower Secondary	7	23.3
	Upper Secondary	18	60.0
	University	4	13.3
Profession	Housewife	26	86.7
	Others	4	13.3
Previous training	Yes	13	43.3
	No	17	56.7

Pre-test and post-test data were analyzed for normality using Shapiro-wilk test and coefficient of variation. Test of Normality describe on Table 3.

Table 2: Test of Normality

	Min	Max	Sig	Co-variance
Pre	13	30	0.046	23,6%
Post	17	32	0.257	16,3%

Pre test and post test have normal distribution based on coefficient of variation value below 30%[25]. Data was analyzed to parametric test used paired t-test. The result of pre-test and post-test and paired t-test is outline in Table 3.

Table 3: Pre-test and Post-test Result Posyandu Cadre Knowledge related to Complementary Feeding

	Mean ± SD	p value
Pre	21.28 ± 5.042	<0.001
Post	24.97 ± 4.2084	

Based on paired t-test show that there significant different between pre-test and post-test result on posyandu cadre knowledge ($p<0.001$). Mean of Posyandu cadre knowledge score increase form 21,28 to 24,97 poin.

With more than ten years of cadre experience, the majority of cadres are between the ages of 41 and 50. Because of their experience, the cadre is able to inform mothers

DOI 10.34011/icihcce.v5i1.253

about complementary feeding. Nonetheless, the majority of cadres lack of training, particularly complementary feeding for 6 – 12 months children.

The majority of the cadres have only completed high school. A few of them hold university degrees. Cadres will educate mothers and their surrounding community, therefore education is crucial.

The study's findings demonstrated that cadres' knowledge had increased between before and after training. According to a different study by Ekayanthi (2022), there were notable differences in the knowledge, attitudes, and communication skills of cadres who got training (the intervention group) and those who did not (the control group) both before and during the intervention. Baby feeding behaviors are significantly influenced by well-trained caders[26].

It is essential for cadres to educate mothers in order to change their behavior and improve supplementary feeding. Posyandu cadres are messengers who engage the public in conversation to force them to provide knowledge and information to the community. In society, cadres play a variety of responsibilities, such as community consultant, mentor, and instructor. Through the use of straightforward language (local language) and flexible scheduling, cadres directly support the community[27]. The social role of cadres is positively impacted by providing them with training and empowerment regarding the early detection and prevention of stunting[28].

Complementary foods provide energy and nutritional needs for children. Good complementary foods will support the growth, development, and prevent stunting of children [29]. Provision of appropriate complementary food, with nutritional education, and maternal nutritional counselling leads to a significant increase in weight and height in children 6-24 months of age. Maternal educational through posyandu cadre are also effective in improving complementary feeding practices and had significant effect on growth in food secure populations [30].

CONCLUSION

There are significant effect of posyandu cadre training on knowledge related complementary feeding for 6 – 12 months as stunting prevention in the first 1000 days of life. Online training can be an effective way to increase cadres' knowledge about complementary feeding.

ACKNOWLEDGEMENTS

We appriciate for all participant in this research.

DOI 10.34011/icihcce.v5i1.253

REFERENCES

1. Child Growth Standards [Internet]. 2022 [cited March 17, 2022]. Available from: https://www.who.int/tools/child-growth-standards/standards.
2. WHO. Childhood Stunting: Context, Causes and Consequences WHO Conceptual Framework2013. Available from: https://www.who.int/nutrition/events/2013_ChildhoodStunting_colloquium_14Oct_ConceptualFramework_colour.pdf.
3. Group UWWB. <Level and trend malnutrition.pdf>. 2020.
4. Kementerian Kesehatan RI. National Report Basic Health Research 2018. 2019.
5. Kementerian Kesehatan RI. Buku Saku Hasil Studi Status Gizi Indonesia (SSGI) Tingkat Nasional, Provinsi, dan Kabupaten/Kota Tahun 2021. Jakarta: Kementerian Kesehatan RI; 2021.
6. Kementerian Kesehatan RI. Status Gizi SSGI 2022. In: RI BKPKKK, editor. Jakarta: Badan Kebijakan Pembanguanan Kesehatan Kementerian Kesehatan RI; 2022.
7. Presidential Regulation of the Republic of Indonesia Number 72 of 2021 concerning the Acceleration of Stunting Decrease, 72 (2021).
8. Shrimpton R, Victora CG, de Onis M, Lima RC, Blössner M, Clugston G. Worldwide timing of growth faltering: implications for nutritional interventions. Pediatrics. 2001;107(5):E75.
9. Sithamparapillai K, Samaranayake D, Wickramasinghe VP. Timing and pattern of growth faltering in children up-to 18 months of age and the associated feeding practices in an urban setting of Sri Lanka. BMC Pediatrics. 2022;22(1):190.
10. Dewey KG, Huffman SL. Maternal, infant, and young child nutrition: combining efforts to maximize impacts on child growth and micronutrient status. Food Nutr Bull. 2009;30(2 Suppl):S187-9.
11. Victora CG, de Onis M, Hallal PC, Blössner M, Shrimpton R. Worldwide timing of growth faltering: revisiting implications for interventions. Pediatrics. 2010;125(3):e473-80.
12. Masuke R, Msuya SE, Mahande JM, Diarz EJ, Stray-Pedersen B, Jahanpour O, et al. Effect of inappropriate complementary feeding practices on the nutritional status of children aged 6-24 months in urban Moshi, Northern Tanzania: Cohort study. PLoS One. 2021;16(5):e0250562.
13. Oliveira DAd, Castro, Inês Rugani Ribeiro de and Jaime. Patricia ConstanteComplementary feeding patterns in the first year of life in the city of Rio de Janeiro, Brazil: time trends from 1998 to 2008 Cadernos de Saúde Pública [online] 2014, v 30, n 8 [Accessed 19 May 2022] , pp 1755-1764. 2014.
14. Esan DT, Adegbilero-Iwari OE, Hussaini A, Adetunji AJ. Complementary feeding pattern and its determinants among mothers in selected primary health centers in the urban metropolis of Ekiti State, Nigeria. Scientific Reports. 2022;12(1):6252.
15. Aggarwal A, Verma S, Faridi MMA, Dayachand. Complementary feeding — Reasons for inappropriateness in timing, quantity and consistency. The Indian Journal of Pediatrics. 2008;75(1):49.
16. Parker M, Schroeder D, Begin F, Hurtado E. Maternal Preferences for Consistency of Complementary Foods in Guatemala. Food & Nutrition Bulletin. 1998;19.
17. Issaka A, Agho K, Page A, Burns P, Stevens G. The problem of suboptimal complementary feeding practices in West Africa: What is the way forward? Maternal & Child Nutrition. 2015;11.
18. Nurokhmah S, Middleton L, Hendarto A. Prevalence and Predictors of Complementary Feeding Practices Among Children Aged 6-23 Months in Indonesia. J Prev Med Public Health. 2022;55(6):549-58.

DOI 10.34011/icihcce.v5i1.253

19. Putu Aurilia Chlaresta Putri IGAAW, Ni Made Dewantari. Pola Pemberian MP-ASI dan Status Gizi Bayi Usia 6-12 Bulan di Wilayah Kerja Upt Kesmas Tampaksiring I. Journal of Nutrition Science. 2018;7.
20. Indonesia KKR. Modul Pelatihan Bagi Pelatih Kader Kesehatan: Pusat Pelatihan SDM Kesehatan Badan Pengembangan dan Pemberdayaan Sumber Daya Manusia Kesehatan; 2018.
21. Kartikasari A, Anggraeni MD, Latifah L, Setiawati N. The Community Health Volunteers description in Exclusive Breastfeeding Promotion and Improved Knowledge Through Training Based on The Concept of "Insufficient Milk Supply". IOP Conference Series Earth and Environmental Science. 2019;255(1).
22. Rohmani N, Utari D. The Role of Leadership and its Relationship with the Performance of Community Health Volunteer: A Survey in Rural Indonesia. Disease Prevention and Public Health Journal. 2021;15(2):103-9.
23. Siti Mutia Rahmawati SM, Faisal Anwar, Risatianti Kolopaking. Counseling by Posyandu Cadres Improves Mother Feeding Practices of Infant and Children at 6-24 Months of Age in Pagelaran Village, Ciomas Subdistrict, Bogor, Indonesia. Gizi Indonesia. 2019;42(1):11-22.
24. Kabupaten Bandung Barat. Laporan Kajian Studi Identifikasi Faktor Determinan Stunting Pada 20 Desa Lokus Stunting di Kabupaten Bandung Barat Tahun 2021. 2021.
25. Dahlan S. Statistik Untuk Kedokteran dan Kesehatan Deskriptif, Bivariat, dan Multivariat Dilengkapi Aplikasi Menggunakan SPSS. Jakarta: Epidemologi Indonesia; 2020.
26. Ekayanthi NWD, Susilawati EH, Pramanik ND. The Impact of Posyandu Cadre Training on the IYCF-Related Knowledge, Attitudes, and Communication Skills. Open Access Macedonian Journal of Medical Sciences. 2022;10(E):1683-9.
27. Ti Ripan RA, Titin D, Novian SH. The Role of Posyandu Cadres in Efforts to Improve The Nutritional Status of Toddlers in Suka Makmur Village, Patilanggio District. Journal of Health, Technology and Science (JHTS). 2021;2(2):37-43.
28. Evi M. The Empowerment of Cadres and Medicasters in The Early Detection and Prevention of Stunting. . Preventia : The Indonesian Journal of Public Health. 2020.
29. WHO. Guiding Principles for Complementary Feeding of The Breastfed Child. 2001.
30. Imdad A, Yakoob MY, Bhutta ZA. Impact of maternal education about complementary feeding and provision of complementary foods on child growth in developing countries. BMC Public Health. 2011;11 Suppl 3:S25.

DOI 10.34011/icihcce.v5i1.253