

Monitoring Obstacles of Toddlers Growth in Public Health Center Margahayu Raya Bandung City during the COVID-19 Pandemic: From Cadre Perspective

Natasya Alifah Sekarani,¹ Dewi Marhaeni Diah Herawati,² Fedri Ruluwedrata Rinawan²

¹Faculty of Medicine, Universitas Padjadjaran, Indonesia, ²Department of Public Health Faculty of Medicine Universitas Padjadjaran, Indonesia

Abstract

Background: Toddler growth monitoring is one of the specific nutritional interventions used to accelerate stunting reduction. The COVID-19 pandemic has reduced various 'Minimum Service Standards' coverages, including toddler growth monitoring. This study aimed to explore the obstacles of toddler growth monitoring at the Integrated Service Center (*Pusat pelayanan terpadu*, Posyandu) during the COVID-19 pandemic.

Methods: This was a qualitative study with an interpretivism paradigm. The unit of analysis was Posyandu of Margahayu Raya Public Health Center, Bandung City, West Java. Primary data were obtained through in-depth interviews with 10 cadres from different Posyandu from September-December 2021. The data were collected using a semi-structured interview guide and a recorder, and analyzed using NVivo software.

Results: During the COVID-19 pandemic, toddler weighing had been suspended for several months. Starting in August 2020, cadres and public health center officers worked to ensure that toddlers' weight, body length, and height could be monitored despite the numerous obstacles.

Conclusion: The obstacles to toddler growth monitoring are inadequate instruments of toddler body height measuring during home visits, minimum cadre skills, a lack of toddlers' mother awareness to bring their toddlers to Posyandu, and a lack of public awareness to follow health protocols.

Keywords: Cadre, COVID-19 pandemic, growth monitoring, public health center, stunting

Introduction

Growth monitoring in children under five (toddlers) is one of the specific nutrition interventions to accelerate the reduction of stunting in Indonesia.¹ Monitoring the growth of toddlers by cadres, through weighing and measuring body length or body height, needs to be carried out according to the guidelines.¹ The goal is to detect stunting toddlers at a younger age so that early intervention can be employed.² Based on the 2014 Global Nutrition Report, Indonesia is one of 117 countries with three nutritional problems, one of which is stunting.¹ In the report of Basic Health Research (*Riset Kesehatan Dasar*, RISKESDAS) 2018, the stunting prevalence in Indonesia has a slight decrease to 30.8%, compared to RISKESDAS 2013.³ The findings of the Indonesian Toddler Nutritional Status Study

(*Studi Status Gizi Balita Indonesia*, SSGBI) in October 2019, the prevalence of stunting in toddlers has decreased into 27.67%, however, the target has not been reached yet.⁴

On March 11, 2020, the World Health Organization (WHO) officially announced Coronavirus disease (COVID-19) as a pandemic since the virus has spread globally.⁵ Monitoring the growth of toddlers at Posyandu has become irregular due to the COVID-19 pandemic.² The decrease in the percentage of toddlers weighed during the first three months of the COVID-19 pandemic also proves that.² The purpose of this study was to investigate the obstacles in monitoring the growth of toddlers at Posyandu during the COVID-19 pandemic.

Methods

The research design was qualitative with

Correspondence: Natasya Alifah Sekarani, Faculty of Medicine Universitas Padjadjaran, Jalan Raya Bandung-Sumedang Km. 21 Jatinangor, Sumedang, Indonesia, E-mail: natasya18005@mail.unpad.ac.id

the interpretivism paradigm, as the aim of the study was to obtain detailed and specific information.⁶ This study was approved by the Research Ethics Committee of Universitas Padjadjaran (No. 631/UN6.KEP/EC/2021).

The unit of analysis was Integrated Service Center (*Pusat pelayanan terpadu*, Posyandu) in the working area of Margahayu Raya Public Health Center in Buah Batu District of Bandung, West Java. Cadres who have been actively monitoring the growth and development of toddlers since before the COVID-19 pandemic until the COVID-19 pandemic were included. Exclusion criteria were cadres who did not fill out the research consent form.

Data were collected from September to December 2021. Trusted informants were selected by first asking how many years they had been a cadre on that Posyandu. The selected informants were cadres who played an important role in Posyandu, such as the chairman, the vice, or other Posyandu administrators. The primary data was gathered through an online in-depth interview method, using Google meetings or WhatsApp video calls. Interviews were conducted until the data was saturated. The total number of informants in this study was 10 cadres who monitored the growth of toddlers at the various Posyandu, shown in Table 1.

This research used the theoretical sampling technique since the researchers departed from theoretical propositions. The research instrument was the researcher with a semi-structured interview guide. The questions were self-made and were reviewed by an expert in the field of in-depth interviews. One by one, questions were asked in a structured and deepened manner according to the critical probing that had been prepared based on previous studies. The questions focused on the description of growth monitoring activities, anthropometric tools used, and the process of recording measurement results before and during the COVID-19 pandemic. Furthermore, the researchers also asked questions based on informant answers outside the interview guide. Researchers used video recording devices via Google meetings and voice recording devices via voice memos to collect data. The recording data were then transcribed into text and analyzed with NVivo software.

Results

In March 2020, the COVID-19 pandemic was formally announced in Indonesia. There was a restriction regulation to go outside. Therefore,

Table 1 Characteristics of Informants

Informant's Initials	Name Integrated Service Center
K1	MS 17
K2	MS 2
K3	CJ 12a
K4	CJ 8
K5	MS 8
K6	MS 9
K7	MS 18
K8	MS 20
K9	MS 15a
K10	CJ 6

the body weight of the toddlers could not be monitored regularly every month at Posyandu. This was supported by one of the informants' statements:

"Posyandu in early 2020 still be held from January to March. After that, there was no weighing for a while due to the (COVID-19) pandemic..." (K2)

However, the cadres still tried to measure the body length or body height of toddlers to be carried out in the next August and February, as expressed by the following cadre:

"We received an appeal for no weighing group at the beginning of March 2020, but especially in February (and) August, (posyandu was) opened" (K4)

Despite several obstacles, weighing and body length or body height measuring could begin in August 2020. Cadres found it difficult to use a stature meter to measure the body height of toddlers, especially during home visits. Consequently, they used a cloth meter to measure both the toddler's body height also the baby's body lengths. the following informant explained that:

"...(a tool) that were affixed to the wall, (stature meter), but if we went door to door, we couldn't carry such tools. So, I bought cloth meter..." (K1)

Cadres also had obstacles when posyandu reopened during the COVID-19 pandemic. Because cadres had visited toddler mothers at home, their awareness of bringing their toddlers to posyandu was reduced. One of the following informants explained it this way:

"...(mothers of toddlers became) comfortable to being visited ... (toddlers mothers) awareness to come to posyandu became difficult again... (toddlers) mothers must be socialized again..." (K9)

Other cadres also stated similar thing:

Table 2 Monitoring the Growth of Toddlers During the COVID-19 Pandemic in the Work Area of the Margahayu Raya Public Health Center

No.	Theme	Key Insight
1.	Toddler weight weighing time	Not routine every month
2.	Body length or body height measurement time	Every February and August
3.	Obstacles that faced by cadres	<ol style="list-style-type: none"> Difficulty in using a stature meter, especially when visiting toddler homes; therefore, cadres used a cloth meter to measure toddler body height and baby body length Toddler's mothers had decreased awareness of bringing their toddlers to posyandu, since they were used to being visited by cadres at their homes It was difficult to educate toddler's mothers who visited posyandu to obey health protocols The cadre skills training provided by public health center officers was only for cadre representatives before the day of toddlers' body length or body height measurement
4.	Obstacles that faced by public health center officers	<ol style="list-style-type: none"> The COVID-19 vaccination program is an additional task for officers at the Public Health Center, making them unable to directly accompany cadres when the process of weighing and measuring body length or body height was held During the monitoring-evaluation of posyandu with a large number of malnourished toddlers, the officers of Public Health Center discovered that some cadres were unable to measure the body length or height of the toddlers properly

"...it was better that way (door-to-door method) because there would be more targets, rather than waiting the toddlers to go to posyandu, uhh, it was very difficult for them to come..." (K10)

Furthermore, cadres found it difficult to educate toddler mothers to follow health protocols when they visited posyandu, as stated by one of the following informants:

"...sometimes (we asked) why did not you wear a mask. (They answered) forgot ma'am. But we must (wrote) a report that we wore a mask when we were doing the activities. (We) told them to go home again, but their home was so far away. Even though it had been announced on the speaker too, for do not forget to wear a mask, but sometimes mothers forgot just like that" (K7)

The staff of the Public Health Center also had obstacles in monitoring the growth of children under five. They could not go to

posyandu or accompany cadres monthly during the COVID-19 pandemic. According to the cadre, the staff of Public Health Center had an additional burden in COVID-19 vaccination activities. That was stated in the statement of one of the informants:

"Before the (COVID-19) pandemic, every month public health center staff came to posyandu, but after the (COVID-19) pandemic, not like that, maybe they were still busy because of the (COVID-19) vaccine (program) for more than a year..." (K7)

To validate the cadre measurements results, the officers of the Public Health Center were still monitoring and evaluating the posyandu where there were many stunted toddlers. Some cadres had not been able to accurately measure the body length or body height of toddlers, as explained by the following informant:

"...the public health center (officers)

intervened directly, (they asked the cadres) how could many (toddlers) from this area were stunted... indeed there was an error from the cadre too. (The cadre) did not measure it correctly. Because from us, it was not just one (cadre) appointed ... We were rotated..." (K6)

In addition, the officers of the Public Health Center also still found cadres who had not been able to properly weigh toddlers, as observed when the officers conducted monitoring and evaluation on posyandu where many cases of undernourished toddlers, as stated by one of the informants:

"...sometimes the method of weighing was not correct. (Public health center staff) would ask, why were there so many undernourished toddlers ... and then, (public health center) staff did monitoring-evaluation again and taught (the cadre) how to weigh it correctly..." (K2)

Training about procedures of weighing and measuring toddlers from the officers of the Public Health Center was only given to cadre representatives and just before the schedule of measuring toddler body length or body height, as stated by one of the informants:

"...(related to the procedure) for measuring toddlers, the public health center often holds a meeting before taking measurements... Usually, only one cadre attended, and that was me. When I was taught (by public health center staff) how to measure like this... I told the other cadres that the way to measure it was like this..." (K1)

Discussion

COVID-19 has had an impact on various aspects, one of which is health, which has created many struggles in carrying out any existing programs.⁷ Our study has found that weighing toddlers could not be monitored for several months due to the COVID-19 pandemic.

Children under five should be monitored regularly.¹ Overweight toddlers can also be at risk for stunting.³ Stunting is one of the malnutrition conditions that harm the toddler's life.² Stunting toddlers can be at risk for suboptimal cognitive development,¹⁰ obesity,¹¹ or respiratory infections.¹² Interestingly, a study in Bogor showed that babies under the age of two years who regularly come to the posyandu are also at the risk of experiencing stunting.⁹ Therefore, regular visits to posyandu are important to monitor the growth and development of toddlers.

As time went by, toddler growth monitoring can be carried out again during the COVID-19 pandemic, even without direct assistance from the staff of the Public Health Center. The staffs

of Public Health Center have been too busy to run a COVID-19 vaccination program as the program is the primary global focus to prevent an increase in COVID-19 cases.⁸ However, in this study, monitoring and evaluation of under-five growth monitoring activities were still carried out by puskesmas officers with the aim of validating the results of children under five measurement by cadres. Monitoring and evaluating a community empowerment program is one of the success factors of a program.¹³

The COVID-19 pandemic has also created several challenges for cadres in carrying out monitoring activities for toddler growth. Cadres have difficulty convincing mothers of toddlers to follow health protocols during posyandu activities. Sufficient understanding of the importance of public health protocols can also help prevent the spread of COVID-19 cases.¹⁴ Awareness of toddler mothers to bring their toddlers to posyandu has decreased. Apart from being afraid of contracting COVID-19, they also forget to bring their toddlers to the posyandu like before the COVID-19 pandemic era, therefore, the cadres have to visit each other's homes.

Several factors could influence mothers of toddlers to bring their toddlers to posyandu routinely.^{15,16} These factors include a low household income background and toddler mother's satisfaction with the quality of cadre services, reflecting good cadre skills.¹⁶ Furthermore, good knowledge of the mothers about the dangers of malnutrition that can occur to their toddlers, and strong support from cadres,¹⁵ could also be the factors influencing the routine visit to posyandu. The lack of public awareness about the dangers of stunting also became a challenge for posyandu cadres in dealing with stunting cases in the area.¹⁷

During the COVID-19 pandemic, cadres did not use the proper tools to measure toddler body height, which may affect the measurement results.¹⁸ Body length and height should be measured using an infantometer and a stature meter, respectively.¹⁸ However, there is now a digital body height instrument that is more practical.¹⁹ That tool has been proven to have a high level of precision and accuracy, and can be used as an alternative tool, particularly when measuring toddler body height using the door-to-door method.¹⁹

In addition to the right measuring tools, cadres must also have sufficient knowledge and skills in weighing and measuring the body length or body height of toddlers.⁴ There are

still some cadres who need more skills, because the training from public health center officers is given to only some cadres. The issues related to a lack of cadre quality in early stunting detection, such as weighing toddlers, are still unresolved.²⁰ Training on the procedure for weighing²¹ and measuring body length or body height⁴ for toddlers needs to be given to all cadres. That training could improve the knowledge and skills of cadres in carrying out anthropometric measurements.^{4,21} Sufficient skills could avoid the possibility of biased measurement results.²

This study has several limitations. Due to COVID-19 restriction regulations, the cadre interviews have to be conducted online, and the observations related to toddler growth monitoring activities at posyandu are unable to take place.

In conclusion, the cadres and the officers at Public Health Center have faced several obstacles in monitoring the growth of toddlers during the COVID-19 pandemic. The most significant obstacles to the continuation of growth monitoring activities are the inadequate availability of instruments to measure toddler body height for a home visit, the lacking of the skills of the cadres in weighing and measuring body length or height, the awareness of toddler mothers to bring their child to posyandu, and the lack of public awareness to obey health protocols during posyandu activities.

Therefore, recommendations have been made to the Bandung City Health Office to provide digital body height measuring tools to all posyandu to make it easier for cadres to measure body height toddlers during home visits and to conduct regular training for all cadres to improve cadre skills equally. In addition, suggestions for public health center officers include reminding cadres to provide socialization to toddler mothers to bring their toddlers to posyandu and educating the mothers about the importance of following health protocols.

References

1. Wardani Z, Sukandar D, Baliwati YF, Riyadi H. Intervention strategies for stunting based on analytic network process in Bangka Belitung province of Indonesia. *Afr J Food Agric Nutr Dev*. 2021;21(3):17656–68.
2. Wandira BA, Suarayasa K. The impact of the COVID-19 pandemic on the posyandu program in Palu City. *IJIREES*. 2021;8(2):140–5.
3. Badan Penelitian dan Pengembangan Kesehatan Kementerian Kesehatan Republik Indonesia. Laporan Nasional Riskesdas 2018. Jakarta: Lembaga Penerbit Badan Penelitian dan Pengembangan Kesehatan; 2019.
4. Rohmah FN, Arifah S. Optimalisasi peran kader kesehatan dalam deteksi dini stunting. *BEMAS*. 2021;1(2):95–102.
5. Alharahsheh HH, Pius A. A review of key paradigms: Positivism vs interpretivism. *Glob Acad J Humanit Soc Sci*. 2020;2(3):39–43.
6. Cucinotta D, Vanelli M. WHO declares COVID-19 a pandemic. *Acta Biomed*. 2020;91(1):157–60.
7. Akseer N, Kandru G, Keats EC, Bhutta ZA. COVID-19 pandemic and mitigation strategies: implications for maternal and child health and nutrition. *Am J Clin Nutr*. 2020;112(2):251–6.
8. Vonaesch P, Tondeur L, Breurec S, Bata P, Nguyen LBL, Frank T, et al. Factors associated with stunting in healthy children aged 5 years and less living in Bangui (RCA). *PLoS One*. 2017;12(8):e0182363.
9. Wang W, Wu Q, Yang J, Dong K, Chen X, Bai X, et al. Global, regional, and national estimates of target population sizes for COVID-19 vaccination: descriptive study. *BMJ*. 2020;371:m4704.
10. Ekholuenetale M, Barrow A, Ekholuenetale CE, Tudeme G. Impact of stunting on early childhood cognitive development in Benin: evidence from Demographic and Health Survey. *Egypt Paediatr Assoc Gaz*. 2020;68:31.
11. De Sanctis V, Soliman A, Alaaraj N, Ahmed S, Alyafei F, Hamed N, et al. Early and long-term consequences of nutritional stunting: from childhood to adulthood. *Acta Biomed*. 2021;92(1):e2021168.
12. Arini D, Nursalam N, Mahmudah M, Faradilah I. The incidence of stunting, the frequency/duration of diarrhea and acute respiratory infection in toddlers. *J Public Health Res*. 2020;9(2):1816.
13. Lawaceng C, Rahayu AY. Tantangan pencegahan stunting pada era adaptasi baru “new normal” melalui pemberdayaan masyarakat di Kabupaten Pandeglang. *JKKI*. 2020;9(3):136–46.
14. Jose R, Narendran M, Bindu A, Beevi N, Manju L, Benny PV. Public perception and preparedness for the pandemic Covid 19: a health belief model approach. *Clin Epidemiol Glob Health*. 2021;9:41–6.
15. Mahyuni, Wydiamala E, Marlinae L,

- Husaini, Arifin S. Relationship of work status and mother educational level and cadre support with mother's visitations to posyandu. *Int J Sci Res Publ.* 2021;11(1):660-6.
16. Nazri C, Yamazaki C, Kameo S, Herawati DMD, Sekarwana N, Raksanagara A, et al. Factors influencing mother's participation in Posyandu for improving the nutritional status of children under-five in Aceh Utara district, Aceh province, Indonesia. *BMC Public Health.* 2016;16:69.
 17. Hamdie NA, Sompa AT, Nur MA. Community empowerment strategy in handling efforts of stunting in Malutu Village, Hulu Sungai Selatan. *Saudi J Econ Fin.* 2020;4(9):446-52.
 18. Casadei K, Kiel J. Anthropometric measurement. *Treasure Islands (FL): StatPearls Publishing;* 2023.
 19. Resmiati, Putra ME. Akurasi dan presisi alat ukur tinggi badan digital untuk penilaian status gizi. *J Endurance.* 2021;6(3):616-21.
 20. Wulandari N, Margawati A, Rahfiludin Z. The liplementation of nutrition improvement programs for underweight children, wasting and stunting in the Department of Health, Central Buton district, Southeast Sulawesi. *J Gizi Indones.* 2021;9(2):86-96.
 21. Lubis Z, Syahri IM. Pengetahuan dan tindakan kader posyandu dalam pemantauan pertumbuhan anak balita. *KEMAS.* 2015;11(1):65-73.