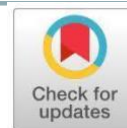


Exploring maternal parenting practices and their role in toddler stunting: a case study in North Jakarta



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ABSTRACT

Stunting remains a significant public health issue in Indonesia, particularly in urban areas such as North Jakarta. Maternal parenting practices encompassing feeding, hygiene, and healthcare behaviors are recognized as key contributors to child nutritional outcomes. However, in specific communities like Posyandu RW 010, where five stunted toddlers have been identified, the underlying parenting dynamics remain poorly understood. This study aims to explore maternal parenting practices including feeding, hygiene, and healthcare utilization among mothers of stunted toddlers in RW 010 Posyandu, North Jakarta, to identify underlying contributing factors to persistent stunting cases. This qualitative study employed a case study approach to explore maternal parenting practices among mothers of stunted toddlers in RW 010, Tugu Utara Village, North Jakarta, Indonesia. Data were collected in December 2024 through in-depth interviews, non-participant observations, and document reviews. Participants included three mothers of stunted children, one Posyandu cadre, and one local community leader, selected through purposive sampling based on inclusion criteria such as low education level, stunted child status, and willingness to participate. Data were analyzed thematically using data reduction, display, and conclusion drawing. Triangulation was applied across data sources, collection techniques, and informants to enhance credibility. The findings revealed suboptimal parenting practices, including incomplete exclusive breastfeeding, unbalanced and monotonous complementary feeding, poor hygiene behaviors (e.g., handwashing without soap), and inconsistent utilization of health services, with some children missing immunizations. Despite the involvement of health services and the support of husbands, limited assistance from extended family and gaps in maternal knowledge were noted. Socioeconomic constraints and cultural beliefs also influenced caregiving practices. This study underscores the complex interplay of maternal behavior, household environment, and social support in the persistence of stunting. The qualitative approach enabled an in-depth understanding of local parenting dynamics that may not be captured through quantitative surveys. Strengthening health education, particularly tailored to local contexts, and expanding family and community engagement are critical to improving stunting prevention efforts.

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INTRODUCTION

Stunting remains a significant global public health challenge, defined as impaired linear growth and development in children under five years of age due to chronic malnutrition and recurrent infections, particularly during the first 1,000 days of life from conception to a child's second birthday.(1) In 2022, the global prevalence of stunted children was estimated at 22.3%, affecting approximately 148.1 million children under five. More than half of these children (76.6 million) reside in Asia, highlighting the disproportionate burden borne by the region.(2) Indonesia is among the Asian countries with a persistently high prevalence of stunting. According to the Indonesian Health Survey (IHS) 2023, the national stunting rate stood at 21.5%, still above the WHO target of less than 20%. At the provincial level, the prevalence in DKI Jakarta was recorded at 19.8%, with North Jakarta reporting the highest burden among all districts at 17.6%.(3) This persistent high prevalence in an urban and capital region underscores the complexity and multidimensional nature of stunting, even in areas with relatively better access to health infrastructure. The World Health Organization (WHO) emphasized that stunting contributes to more than two million deaths in children under five annually, many of which are linked to poor feeding practices, inadequate hygiene, repeated infections, and insufficient caregiving.(4) Parenting practices including child feeding, sanitation behavior, and health service utilization as indirect but critical determinants of child nutritional status and growth outcomes.(5)

Tugu Utara Village, located in North Jakarta, exemplifies this persistent public health issue. Despite being part of the capital city, it continues to report high numbers of stunting cases. Based on preliminary field interviews with local health cadres, five cases of stunting were recently identified in Posyandu (Integrated Health Post) RW 010, with recorded body weights of affected toddlers ranging from 8.3 kg to 10.3 kg. This localized data not only reflects the national trend but also points to the need for targeted community-level investigation and intervention.

Although stunting has long been recognized as a multifactorial public health issue, recent evidence underscores that maternal parenting practices are among the most significant determinants of stunting outcomes in young children. In a recent cross-sectional study in Padang, Indonesia, mothers with poor parenting styles were found to have a 3.2-fold greater risk of having stunted children (95% CI: 1.38–7.35; $p = 0.006$), after controlling for other maternal factors.(6) Similarly, in Palembang, stunted toddlers were more commonly cared for by mothers with inadequate feeding, hygiene, and health care practices and low maternal education was also strongly correlated with stunting risk.(7) However, in the specific context of Posyandu RW 010, Tugu Utara Village (North Jakarta), which reported five confirmed cases of stunted toddlers, there has been no prior qualitative exploration of how parenting patterns across feeding, hygiene, and health service use actually operate. Local interventions such as supplementary feeding (*PMT*) and growth monitoring are in place, yet persistent stunting suggests these interventions may not be fully effective.

The urgency of this study arises because, despite the availability of health services and routine attendance, parenting remains a critical missing link. Contributing factors may include limited maternal knowledge, cultural feeding norms, restricted access to comprehensive education, and the absence of family support systems in urban communities. Qualitative studies in other Indonesian villages have highlighted that

socio-cultural beliefs and maternal literacy impact parenting effectiveness yet such understanding is lacking for this urban setting. Addressing this knowledge gap is essential to understand why standard interventions (e.g., PMT, posyandu visits) are insufficient to eliminate stunting. The current study therefore seeks to explore the specific parenting behaviors and their contextual constraints in RW 010, employing a qualitative case study design to inform more tailored and effective interventions in urban health settings.

Given the persistent incidence of stunting in Posyandu RW 010, Kelurahan Tugu Utara, this study aims to explore maternal parenting as a key underlying determinant of stunting in toddlers. While previous interventions in the area have focused on nutritional supplementation and health service utilization, the persistence of stunting despite these efforts suggests deeper behavioral and caregiving issues that require exploration. Parenting practices encompass critical dimensions such as breastfeeding, complementary feeding, hygiene, and responsiveness to health needs all of which interact dynamically with the child's development environment. A qualitative approach is therefore the most appropriate for this study. Unlike quantitative methods, which are limited to measuring predefined variables, qualitative inquiry enables a contextual, in-depth understanding of maternal beliefs, practices, decision-making processes, and constraints. This is particularly relevant in urban communities like Tugu Utara, where socio-economic diversity, cultural norms, and structural barriers may shape caregiving in complex ways that are not easily captured through surveys or statistical models. Research by Mauludyani and Khomsan (2022) in East Java found that inadequate parenting behaviors were rooted not only in knowledge deficits but also in cultural beliefs, emotional stress, and lack of agency, which could only be uncovered through qualitative interviews and observations.(8) Similarly, Sari et al. (2022) emphasized that stunting cannot be resolved solely by increasing nutritional knowledge or food availability, because mothers often face constraints in applying such knowledge at the household level due to limited social and emotional support.(7)

Focusing on Posyandu RW 010 as a case location is crucial, not only because of its documented stunting cases, but also because this area represents a typical peri-urban neighborhood in Jakarta, where public health infrastructure is available, yet behavioral and cultural factors still hinder the optimal use of health services. By focusing on parenting rather than solely nutritional education or government programs, this study seeks to identify the "missing link" between service access and health outcomes. Parenting is a modifiable factor that can enhance the impact of existing interventions.(9) Moreover, while government efforts such as the *National Strategy for Stunting Reduction (Stranas Stunting)* emphasize cross-sectoral programs, there is often insufficient attention to how caregivers perceive, engage with, or are enabled by these programs. Without understanding these micro-level dynamics, even the best-designed policies may fail to yield desired outcomes.

Therefore, this study adopts a qualitative case study design to provide actionable insights into maternal parenting behaviors and their contextual constraints. The findings are expected to contribute to the design of more responsive, family-centered stunting prevention strategies, tailored to the realities of caregivers in similar urban settings. This study aims to explore maternal parenting practices including feeding, hygiene, and healthcare utilization among mothers of stunted toddlers in RW 010 Posyandu, North Jakarta, to identify underlying contributing factors to persistent stunting cases.

METHOD

This study employed a qualitative design using a case study approach to explore maternal parenting practices among mothers of stunted toddlers. The research was conducted in December 2024 at the Toddler Posyandu in RW 010, Tugu Utara Village, North Jakarta, a region with a reported high prevalence of childhood stunting. Participants were recruited through purposive sampling to ensure the inclusion of individuals with relevant experience and contextual alignment with the study's objectives. The inclusion criteria for the main

informants were: (1) biological mothers of children under five years old who had been diagnosed with stunting based on Posyandu growth monitoring records (KMS); (2) residents of RW 010; (3) possessing limited formal education (maximum senior high school); (4) living in low socioeconomic conditions based on local government data; and (5) providing informed consent and being available for interviews. The exclusion criteria included: (1) mothers who were unavailable during the study period; (2) individuals who had communication impairments or mental health issues that hindered effective interview participation; and (3) individuals who withdrew consent at any point during the research. A total of five participants were involved in the study, consisting of three mothers of stunted toddlers (main informants), one Posyandu cadre responsible for monitoring child growth and managing stunting prevention activities (key informant), and one RW head (supporting informant) who provided contextual and environmental insights into the Posyandu and community health interventions. Data were collected through three primary techniques: in-depth semi-structured interviews, non-participant observation and document review. The interviews followed a semi-structured guide focusing on six indicators of parenting behavior: breastfeeding habits (e.g., exclusivity, duration, frequency), supplementary feeding habits (e.g., age of initiation, dietary diversity, feeding frequency), hygiene practices (e.g., handwashing, food preparation, household sanitation), utilization of healthcare services (e.g., Posyandu attendance, immunization compliance, ANC/PNC visits), support from Posyandu cadres (e.g., information sharing, home visits, counseling), and social support from community figures (RW Head and family) (e.g., encouragement, assistance in caregiving tasks). Each interview lasted 45–60 minutes, conducted in participants' homes or the Posyandu facility, depending on participant preference. Observations were conducted during two Posyandu sessions (each lasting approximately 90 minutes), focusing on maternal-child interactions, hygiene behavior, and community engagement during health service provision. Document reviews included child health cards (KMS), Posyandu attendance lists, and local stunting reports. All interviews were audio-recorded with participant consent, and field notes were taken to capture non-verbal cues and environmental context. The primary data collection instrument was the researcher, supported by an interview guide and an observation checklist. Ethical approval was obtained from the Graduate School of Universitas Muhammadiyah Prof. Dr. Hamka. All participants provided written informed consent, were informed of their right to withdraw, and were assured of confidentiality and anonymity. Data were analyzed using thematic analysis following Braun and Clarke's six-step framework: (1) Familiarization with data: Transcribing interviews, reading transcripts repeatedly, (2) Generating initial codes: Manual coding of meaningful data units related to parenting behavior, (3) Searching for themes: Grouping codes into broader categories that reflect emerging patterns, (4) Reviewing themes: Refining and validating themes against coded data and full transcripts, (5) Defining and naming themes: Clear definition of themes and sub-themes based on indicators, (6) Producing the report: Synthesizing findings with illustrative quotes and contextual interpretation. To ensure trustworthiness, this study implemented triangulation across multiple dimensions: Data source triangulation: Comparing responses from mothers, Posyandu cadres, and the RW head; Method triangulation: Integrating data from interviews, document reviews, and observations; Investigator triangulation: Peer debriefing was conducted with two faculty researchers to validate interpretation; and Member checking: Participants were invited to verify summaries of their interviews to ensure accuracy and credibility. By combining diverse data sources and perspectives, the study ensured a rich, contextualized understanding of maternal parenting practices in the prevention of stunting.

RESULTS

This study aims to describe the parenting patterns of mothers of stunted toddlers in RW 010, Tugu Utara Village, North Jakarta. Data were collected over one month through in-

depth interviews and repeated observations at the Posyandu and participants' homes. Each mother was interviewed twice, and observations were conducted during monthly Posyandu activities and two home visits for each family. Document reviews were performed using Child Health Cards (KMS) to confirm stunting status.

Participants were selected based on the following inclusion criteria: mothers with children under five years old who were identified as stunted based on KMS, residing in RW 010, and willing to participate in interviews and observations. Exclusion criteria included mothers who could not be contacted after three attempts or who had communication difficulties preventing data collection.

Parenting practices were explored across several domains: breastfeeding habits, complementary feeding practices (PMT), hygiene behaviors, utilization of health care facilities, and family support. Interview data were transcribed verbatim and analyzed using thematic content analysis to identify recurring patterns and themes related to these domains. To enhance credibility, validity was maintained through triangulation of data sources (mothers, cadres, supporting informants), techniques (interviews, observations, document review), and peer debriefing during analysis.

The following sections present the findings based on these themes, providing an in-depth description of maternal parenting practices and contextual factors influencing the incidence of stunting in the study area.

Informant Characteristics

Before conducting in-depth interviews, several questions were asked about the characteristics of the informants to find out the background of the informants. The results of informant characteristics are described in the form of a table as follows:

Table 1. Key Informant Characteristics

No.	Informant Characteristics	Informant 1	Informant 2	Informant 3
1.	Mother's age	33 years	36 years	32 years
2.	Age of toddler	23 months	25 months	36 months
3.	Number of children	4 people	5 people	3 people
4.	Weight of children under five	8.3 kg	8,9 kg	10,3 kg
5.	Height of children under five	79 cm	77.4 cm	83.5 cm
6.	Mother's last education	JHS	Vocational School	Islamic JHS
7.	Father's latest education	SHS	Vocational School	Islamic SHS
8.	Mother's occupation	Factory worker	Housewife/orderly worker	Housewife
9.	Father's occupation	App-based motorcycle taxi driver	uncertain	Take care of the curtain shop
10.	Family income	Husband (50,000 a day)	uncertain	Husband (3,000,000 a month)

Based on the results of the informant characteristics interview in Table 1, it was found that all mothers were still in the productive age category, the age of toddlers was in the toddler category (babies under three years old), the weight and height of children were still below their age, the education of mothers and fathers was in the low education category \leq SHS, the work of housewives was more than working mothers, and family income was still in the low category.

Breastfeeding habits

A key theme that emerged from the data was the consistency of breastfeeding practices among mothers, particularly in terms of duration and the use of supplementary milk. All three main informants reported breastfeeding their children for approximately two years or longer. Informant 1 shared: *“I breastfed until 22 months and gave the special stunting milk powder (SGM purple) from the health center. It was taken three times a day, and I also received eggs as part of the assistance.”* Informant 2 similarly stated: *“I breastfed for two years and gave the special stunting milk powder (SGM purple) from the puskesmas.”* Informant 3 added: *“I breastfed for more than two years and now give my child stunting milk powder from the puskesmas.”*

Triangulation of data sources reinforced these accounts. Observational data from the researcher showed that purple SGM milk was visibly present in the homes of all informants. However, document review of child growth cards (*Kartu Menuju Sehat/KMS*) and Posyandu records revealed no specific notes regarding the provision of exclusive breastfeeding for the first six months of life a critical component of recommended infant feeding practices.

This suggests that while breastfeeding duration aligns with general recommendations, exclusive breastfeeding may not have been adequately practiced or recorded. The early introduction of supplementary milk, even in the form of stunting-specific formula, may reflect a gap in knowledge or adherence to exclusive breastfeeding guidelines.

Importantly, while all mothers emphasized the value of breastmilk, the lack of clarity regarding exclusivity suggests that information dissemination and counseling on early feeding remain insufficient. The findings suggest that interventions should not only provide supplemental nutrition but also reinforce understanding of exclusive breastfeeding benefits and its role in preventing stunting during the critical first 1,000 days. Further research could explore how cultural beliefs, economic constraints, and health service messaging shape maternal feeding decisions.

Complementary Feeding Habits

Based on interviews regarding Complementary Feeding (PMT), questions asked included: the age at which children started eating, frequency, composition, variety of feeding, breakfast habits, and snacks given to children. The results of the interviews on PMT feeding habits are described as follows: **Informant 1** stated that her child *“started eating at 7 months, with a frequency of 3 times a day. Breakfast usually consisted of chicken porridge, and lunch was mostly vegetables such as carrots, pumpkin, and corn. Rice was rarely consumed because the child preferred soft food. The composition included protein and vegetables, and the child liked fruits such as melon and watermelon. The mother cooked food separately from the family menu to ensure a soft and soupy texture. Snacks included wafers daily”* The preference for soft foods and avoidance of rice may indicate oromotor development issues or simply prolonged texture preference due to delayed exposure to solid foods. Prolonged provision of soft-textured foods could limit chewing skill development and dietary diversity, affecting micronutrient intake necessary for growth. **Informant 2** reported introducing *“food at 6 months, providing 3 meals per day. Breakfast was the same as the family menu. The composition was often incomplete, sometimes only vegetables or only side dishes. Fruit was given if available. Meals were cooked at home or occasionally purchased ready-made. Snack options included ciki, wafers, and other stall-bought snacks”* Incomplete meal composition suggests a lack of balanced nutrition, which can result from economic limitations. The informant acknowledged financial uncertainty as a barrier to providing diverse and complete meals. This inadequate nutrient intake, particularly lack of consistent protein and micronutrients, increases the risk of chronic malnutrition, contributing to stunting. **Informant 3** also explained that *“her child started eating at 6 months, with an irregular feeding frequency—sometimes only 1 to 4 times daily. Breakfast was inconsistent, and meals were based on the child’s requests. The composition was usually complete when*

available. *This child consumed large quantities of fruit (a whole comb of bananas daily) and snacks such as ciki and jelly, obtained frequently from street vendors* Irregular feeding frequency and reliance on child-led eating can cause inadequate energy and nutrient intake. Frequent consumption of low-nutrient snacks (high in salt, sugar, and preservatives) may displace more nutrient-dense foods, compounding the risk of growth faltering.

Based on observations at the posyandu, it was found that there was no counseling on food variety was observed, limiting mothers' knowledge and creativity in preparing diverse meals. Economic constraints further reduce the ability to provide balanced meals.

Triangulation of interviews, observations, and Posyandu records indicates that while mothers demonstrate awareness of complementary feeding, practices remain suboptimal. Feeding is often irregular, meals lack diversity, and snacks dominate daily intake. These findings highlight systemic gaps: Posyandu visits showed no targeted counseling on food variety or practical meal planning, and economic instability further limits food diversity. Such patterns increase the risk of chronic nutrient deficiencies, contributing to stunting despite the availability of health services.

Hygiene Habits

The results of interviews regarding hygiene habits were asked to informants regarding the habit of washing hands before eating, frequency of bathing, brushing teeth, changing clothes, cutting nails, frequency of cleaning the bathroom pool and frequency of cleaning the house and food storage. The results of the interview regarding hygiene habits were explained by the mother as follows: Informant 1 explained *"before eating, I always wash my hands with soap and running water and my child also washes his hands, the atmosphere when feeding follows the child's mood, bathing 2 times a day, the child is difficult to brush his teeth, changing clothes does not count dirty change dirty change, cutting nails once a week (Wednesday / Friday), there is no bathroom pool because of the small bucket for bathing, the frequency of sweeping mopping every day is done when the child sleeps, and food storage is stored in a closed cupboard"* Informant 2 explained *before feeding, I always wash my hands with water but do not use soap and my child also washes his hands but does not use soap, the atmosphere of eating is easy for mom to eat, the child likes to bathe so the frequency can be 5 times a day, the child wants to brush his teeth, change clothes often, cut nails every time they start to cut long (twice a week), the bathroom pool is cleaned every day because the water source is from the well so it is easy to moss, the frequency of sweeping mopping the floor twice a day (morning and evening) and the way food is stored is just stored without being closed"* Informant 3 also explained *"before feeding I always wash my hands with water and soap, my child before eating sometimes washes his hands with water and soap sometimes also just uses wet tissue, the atmosphere when feeding is not difficult because the baby is very easy to eat, bathing 3 times a day, for brushing teeth, the child wants to brush his teeth but the toothpaste still likes to be swallowed, the frequency of changing clothes is often dirty change dirty change, cut nails once a week (Friday), the bathroom pool is rarely cleaned because the water is central PAM so if it's on only the bucket is filled if there is no dry, clean the house sweep mopping twice a day and how to store food stored on the table and closed using a pot lid "*.

Based on observations made by researchers, the average informant only washes his hands without using soap before feeding his toddler, the water reservoir is always used up, but not brushed or cleaned so that there is still moss or dirt that may still stick to the bucket.

The results of interviews and observations found that all mothers of toddlers wash their hands before feeding their children and their toddlers also wash their hands before eating but do not use soap. The atmosphere when feeding is quite good but there is something that is not good by inviting children to walk and watch TV. Toddlers bathe 3 times a day and almost all want to brush their teeth, change their clothes frequently, and cut their

nails at least once a week. The bucket is a water reservoir in the bathroom, so it is always used up. Mothers of toddlers clean the home environment by sweeping mopping every day and the way food is stored is also good enough to be stored closed.

Habits of Using Health Care Facilities

Based on the results of interviews on habits of using health care facilities, informants were asked how to deal with sick children, immunizations, routine visits to posyandu and activities that have been carried out regarding child growth and development. The results of the interview regarding the habit of using health care facilities are explained by the mother as follows: Informant 1 explained *“my child rarely gets sick, when he is sick, he is taken to the puskesmas, he missed one immunization because he was sick yesterday, he regularly goes to the posyandu every month and there have never been any activities in the RW10 area”* Informant 2 explained *“always goes to the puskesmas when his asthma recurs (my asthma is congenital), his immunization is incomplete because yesterday the child underwent TB treatment for 6 months so that he could not be routinely immunized, always participates in posyandu, and there has never been an activity in the RW10 area”* Informant 3 explained *“My child is rarely sick, but if he is sick, he is taken to the puskesmas, his immunization is complete, he regularly attends posyandu, and there have never been any child development activities in RW10”*.

Based on the results of observations and document review of the KMS book and attendance book at the posyandu, it was found that mothers of toddlers routinely take their toddlers to the posyandu. Immunization records are also recorded in the toddler's KMS book even though the immunization is incomplete. And based on observations at the posyandu, there have never been child development activities carried out at the posyandu in the RW 10 area.

The results of the interviews, observations and document review showed that all mothers check their children to the puskesmas if they are sick, immunization is incomplete because the child is sick and the environmental factors are unhealthy, all toddlers always attend posyandu activities and child development activities have never been carried out in the RW10 posyandu area.

Support

Support from husbands emerged as a consistent theme, while assistance from extended family members varied significantly. Three subthemes were identified, spousal involvement, extended family engagement, and observed behavior versus reported experiences.

All mothers reported receiving emotional and practical support from their husbands. Examples included inquiries about child development and encouragement to ensure adequate food intake. Informant 1 emphasized active involvement, stating that *“her husband not only encouraged but sometimes “forced” the child to eat, reflecting strong paternal engagement”*. Informants 2 and 3 similarly noted that *“husbands frequently asked about the child’s progress after Posyandu visits, indicating concern for health and growth”*. This pattern suggests that fathers play a central role in caregiving decisions, which can be a valuable entry point for stunting prevention programs. However, the practice of “forcing food intake,” while well-intentioned, raises questions about its compatibility with responsive feeding principles recommended by WHO.

Reports of support from other household members were inconsistent. Informant 1 mentioned encouragement from a grandmother, aunt, and uncle, while Informant 2 stated that only her husband provided attention, and Informant 3 reported no active involvement from other relatives. Observations reinforced this variability: in one home, a grandmother was observed reminding her daughter-in-law to feed the child lunch, while in another, other family members appeared disengaged during meal preparation. These findings indicate that

broader family networks may not consistently contribute to caregiving, which can increase the burden on mothers despite the presence of multiple household members.

Triangulation of interviews and observations revealed alignment in recognizing husbands as the primary source of support but highlighted discrepancies regarding extended family roles. While some mothers described relatives as supportive, observational data suggested limited or situational engagement. This underscores the need for caution in interpreting self-reported data, as social desirability bias may influence responses.

Overall, spousal support appears to be a critical resource for mothers, while extended family involvement is less reliable. These dynamics suggest that interventions should leverage paternal engagement as a key strategy for improving child nutrition. At the same time, efforts to educate and involve other household members could help distribute caregiving responsibilities more evenly, reducing maternal stress and enhancing the effectiveness of feeding and health practices.

Key Informant Member of Posyandu Cadre in charge of Stunting

In an in-depth interview with posyandu cadres, several questions were asked, the following are the results of interviews with posyandu cadres:

Table 2. Results of Key Informant Interviews with Posyandu Cadres

No.	Questions	Posyandu Cadre
1.	Who usually helps the mother in the implementation of posyandu?	<i>"Midwives, always bring immunization supplies every time they open posyandu"</i>
2.	Immunization is usually done where. At the posyandu or at the puskesmas?	<i>"At the posyandu"</i>
3.	What do you know about stunting?	<i>" Stunting is height not in accordance with age, it affects the child's brain, food must be animal-based, hygiene is also included, but the point is that stunting is the child's height is less".</i>
4.	What is the role of cadres in dealing with stunting?	<i>" Educating mothers of toddlers when they come to the posyandu by first checking the KMS book, then if there is a lack of weight and height, they are asked and given food intake education that must be consumed by children, in a subtle way so as not to be offended, because many parents feel offended if their children are stunted"</i>
5.	What are the factors that cause stunting in children?	<i>" Nutritional intake is the most dominant factor, supported by economic factors (for example, the mother wants to buy nutritional intake for her child, but now the price of basic necessities is already expensive, in the end the child is given a makeshift meal), and parental divorce".</i>
6.	How many are stunted in this area?	<i>"7 toddlers are stunted"</i>
7.	Do mothers of toddlers regularly come to the posyandu?	<i>" Yes, they are diligent in coming to the posyandu, but there are some who find it difficult to come to the posyandu".</i>
8.	What efforts have been made to get mothers of children under five interested in coming to the posyandu?	<i>" Encouragement to go to the posyandu, giving vitamins, and providing basic food".</i> <i>"She lacks height".</i>
9.	Determination of which children are said to be stunted is usually based on what?	<i>"His height is lacking".</i>
10.	Measured using what?	<i>"Use a device that is put to sleep (for children <2 years old), a device that stands (for children >2 years old)"</i>

No.	Questions	Posyandu Cadre
11.	Measurement of stunting apart from height measurement are there other measurements?	" <i>Weight measurement</i> ".
12.	What kind of food composition should be in a child's diet?	" <i>Adjusting the contents of my plate, which has vegetables, carbohydrates, and protein</i> "
13.	For the right food should be processed like what to overcome stunting toddlers. And does the type of processed food served by parents affect stunting in toddlers?	" <i>Mom's own food is made creatively, which does not contain excessive micin, because food processing also affects the occurrence of stunting</i> ".
14.	Do you think parenting is a problem that triggers stunting?	" <i>It could be, for example, if there is a divorce of parents, then the child often lives with his grandmother, so there is less attention to diet and other children's needs</i> ".
15.	What activities have been carried out to overcome stunting?	" <i>MAKBAR CENTING (eating together with stunted toddlers), referrals from the puskesmas for stunted toddlers, and assistance from the puskesmas in the form of special milk powder for stunted toddlers (SGM purple) and protein intake (eggs)</i> ".
16.	Are there routine activities in an effort to overcome stunting?	"None"
17.	From the kelurahan or RW, are there routine activities?	"None"
18.	Has there been any research on stunting before?	"None"
19.	If so, has stunting socialization been implemented?	"None"

Interviews with the Posyandu cadre in Table 2 revealed both the scope and limitations of local stunting prevention efforts. The cadre described her primary role as monitoring child growth through height and weight measurements, reviewing health cards (KMS), and providing brief counseling when deviations were noted. Counseling typically included reminders about balanced meals and the importance of animal-based protein, although delivery was informal and intended to avoid offending mothers. According to the cadre, "If a child's weight and height are low, we advise the mother on food intake in a subtle way so they don't feel offended." This approach reflects cultural sensitivity but may limit the depth and consistency of behavior change communication.

The cadre identified inadequate nutritional intake, economic constraints, and parental divorce as the main drivers of stunting. These explanations are consistent with national evidence but lack discussion of other known determinants such as infections, sanitation, and psychosocial care. When asked about prevention strategies, the cadre mentioned initiatives like *MAKBAR CENTING* (shared meals with stunted toddlers), provision of fortified milk (SGM purple), and protein-rich foods such as eggs, in collaboration with the puskesmas. However, these activities appear episodic rather than systematic, as the cadre acknowledged: "There are no routine activities or structured programs at the RW level, and counseling has not been carried out regularly." Document review confirmed this, showing that the counseling report book remained blank and that no educational media on stunting were available in the Posyandu area.

While the cadre's knowledge of stunting, defined as low height-for-age with potential cognitive impact, was adequate, her interpretation focused narrowly on physical growth rather than multidimensional outcomes. For instance, when asked about additional measurements beyond height and weight, she noted none. This reflects a biomedical

emphasis that overlooks the importance of developmental monitoring. Furthermore, her suggestion that “food should be creatively processed and low in MSG” indicates practical awareness but limited alignment with standardized dietary guidelines or responsive feeding principles recommended by WHO.

The absence of structured educational programs and routine counseling represents a critical missed opportunity, especially given mothers’ regular attendance at Posyandu. Despite diligent recording and distribution of food assistance, the lack of follow-up and behavior-focused interventions reduces the potential impact of these efforts. The cadre’s proactive attempts to engage mothers, such as offering basic food incentives—illustrate commitment within systemic constraints, yet sustainability remains questionable without institutional support.

Overall, the findings underscore a systemic gap: while cadres are central actors in community-based nutrition services, their role is constrained by limited resources, lack of standardized training in counseling, and absence of educational tools. Strengthening these aspects through formal capacity building, provision of visual aids, and integration of structured behavior change communication could enhance the effectiveness of cadre-led interventions. Future research should examine the feasibility and impact of such measures within urban low-resource settings.

Supporting Informant (RW Head)

Interviews with the RW Head revealed a complete absence of structured or routine stunting-related activities at the community level. The informant stated, “*There has never been an activity about stunting in RW 10, except occasional gatherings at RPTRA targeting mothers of stunted toddlers. There has also never been counseling about stunting; at most, we informally tell mothers if their child’s weight or height is below standard.*” This reflects a reactive rather than preventive approach, where information is shared only when a problem becomes apparent, rather than through proactive education or community-wide awareness campaigns.

Observations confirmed the absence of visual educational materials such as posters or leaflets at the Posyandu site or in public spaces within the RW. Posyandu activities were conducted in the RW office without the use of announcement boards, audiovisual tools, or any structured health education sessions. This lack of visible and structured educational support represents a missed opportunity to leverage regular community gatherings for disseminating information on nutrition, hygiene, and parenting practices, key components in reducing stunting prevalence.

The absence of institutionalized support suggests systemic limitations rather than a lack of willingness at the local level. The RW Head did not mention resource constraints explicitly, but the absence of programs and media implies either insufficient funding or lack of coordination between neighborhood leadership and health authorities. In similar urban low-income contexts, effective stunting prevention relies on the integration of community leadership into health promotion strategies. Without this, household-level behavior change remains dependent on individual initiative, reducing the likelihood of widespread impact.

From an analytical perspective, the form of support provided by the RW can be categorized as informal and ad hoc, consisting mainly of verbal reminders to specific mothers. While such interpersonal communication can have a positive influence on awareness, its limited reach and lack of standardization reduce its effectiveness in creating a community-wide understanding of stunting prevention. The absence of structured activities also undermines the potential of Posyandu as a platform for integrated education, growth monitoring, and health promotion.

These findings highlight a critical gap in multi-level collaboration for stunting prevention. While Posyandu cadres engage in monitoring and some counseling, RW leadership, despite its strategic position to mobilize resources and coordinate collective

action, does not actively support stunting-related initiatives. Strengthening this collaboration could involve formalizing RW responsibilities in local health promotion policies, providing resources for educational media, and incorporating stunting prevention into community agenda-setting. Future interventions should assess the feasibility of training community leaders to become active partners in nutrition and health education, ensuring a whole-of-community approach to reducing stunting.

DISCUSSION

Stunting is one of the most serious health problems faced by children, especially in Indonesia, with a high prevalence. Factors contributing to the incidence of stunting are not only nutritional, but also influenced by maternal parenting in various dimensions, including breastfeeding, supplementary feeding, hygiene, use of health services, and family support. Good parenting plays an important role in supporting optimal growth and development of children, while poor parenting is often associated with a high risk of stunting. This section will discuss in depth various aspects of maternal parenting and its relationship with the incidence of stunting based on the results of research, interviews, observations, and document reviews in the Tugu Utara Kelurahan area, especially Posyandu RW 010.

Maternal Parenting Based on Breastfeeding and PMT Care with the Incidence of Stunting in Toddlers

This case study highlights the complex maternal care practices among mothers of stunted toddlers at the Integrated Health Post (Posyandu) in RW 010, North Tugu. The findings reveal persistent challenges in meeting optimal feeding practices, including inconsistent exclusive breastfeeding, early introduction of complementary foods, irregular feeding schedules, and reliance on low-nutrient snacks. These behaviors are compounded by economic constraints and limited knowledge, resulting in incomplete meal composition and low dietary diversity. Additionally, while mothers strive to create a supportive feeding environment, systemic gaps, such as lack of structured counseling on complementary feeding, further contribute to the persistence of stunting at the household level.

Previous research underscores the strong link between maternal feeding practices and the risk of stunting. Rahmayana's research emphasized that exclusive breastfeeding for six months, timely complementary feeding (PMT-ASI), and balanced meals significantly reduce stunting risk.⁽¹⁰⁾ Similarly, Bela's research reported that 68.4% of toddlers with poor feeding habits were stunted, with mothers who practiced inadequate feeding being 8.8 times more likely to have stunted children compared to those with good practices.⁽¹¹⁾ Our findings in Tugu Utara qualitatively support these results, as most mothers reported inconsistent exclusive breastfeeding, early introduction of complementary feeding, incomplete meal composition, and frequent provision of unhealthy snacks. However, this study adds nuance by revealing why these practices persist, economic constraints, lack of knowledge, and the absence of structured counseling at the Posyandu level.

Maternal behavior in caring for toddlers has been shown to strongly influence nutritional status, as noted by previous studies.⁽¹²⁾ Our study reinforces this but also expands on it by providing qualitative details on how specific behaviors such as reliance on soft-textured foods, child-led feeding patterns, and the preference for instant snacks emerge within low-income urban households. These findings indicate categorized poor feeding habits broadly, our research unpacks these habits into distinct practices shaped by both socioeconomic limitations and behavioral factors, such as catering to child preferences.

The problem of stunting incidence has often been linked to inadequate parenting and food intake errors.⁽¹³⁾ While prior studies highlight food unavailability as a cause, our findings show that in an urban context like Tugu Utara, access to food is less of a barrier than affordability and knowledge. Mothers often opt for cheap, highly processed snacks because they are readily available and culturally accepted, even though these foods provide

minimal nutritional value. This aligns with the concept that good food parenting is reflected in dietary diversity(14), which remains low in our study population due to both economic and behavioral factors. These insights deepen the understanding of stunting risks in urban areas and highlight the need for interventions that not only improve food access but also address maternal education and feeding behavior.

The findings emphasize the need for health workers, particularly midwives and Posyandu cadres, to provide more intensive and continuous education on exclusive breastfeeding and complementary feeding practices. Counseling should go beyond general recommendations by addressing specific challenges identified in this study, such as mothers' reliance on soft-textured foods, irregular feeding schedules, and frequent provision of unhealthy snacks. A culturally sensitive approach that respects family food habits while promoting practical alternatives using affordable, locally available ingredients is essential. Furthermore, cadres should strengthen efforts in hygiene promotion, particularly handwashing with soap, and integrate growth stimulation activities into routine Posyandu services.

At the policy level, these findings highlight the need for integrated nutrition interventions that consider the socioeconomic realities of urban low-income households. Programs should combine food assistance with structured nutrition education and behavior change communication strategies. Additionally, local governments could invest in comprehensive training for Posyandu cadres, focusing not only on monitoring and recording child growth but also on delivering counseling that effectively addresses barriers such as economic constraints and maternal knowledge gaps. Policies should also support community-based initiatives that enhance family involvement in child feeding and growth monitoring.

Future studies should explore the effectiveness of family-based nutrition education programs tailored for urban poor communities. Intervention research could assess the impact of structured counseling combined with affordable meal-planning strategies on improving dietary diversity and reducing stunting rates. Additionally, further investigation is needed to understand psychosocial and cultural factors influencing feeding behaviors, such as child food preferences and parental responsiveness, to design interventions that are both effective and acceptable to families.

Maternal Parenting Based on Childcare with the Incidence of Stunting in Toddlers

This study provides insight into how childcare practices influence stunting among toddlers in an urban low-income context. Unlike feeding practices, childcare encompasses daily interactions, supervision, and health-related behaviors that collectively shape a child's growth and development. Our findings reveal a paradox, most mothers were primary caregivers, expressed strong efforts to improve their child's nutrition, and reported that their toddlers were "easy to feed." Yet, stunting still occurred. This suggests that the quality of feeding practices and overall parenting strategies, rather than effort alone, plays a decisive role in preventing stunting.

Bela's research supports the strong association between parenting quality and stunting risk, finding that mothers with poor childcare habits were 6.62 times more likely to have stunted toddlers compared to those with good habits.(11) While Bell et al. (2020) a broadly categorized poor parenting as a risk factor, our study adds nuance by highlighting that even mothers who provide direct care and attempt to improve intake may still fail if complementary feeding practices remain incorrect or if health guidance is inconsistent. This gap underscores that motivation does not always translate into effective practices without structured education and monitoring.

Direct maternal care has been associated with better health outcomes compared to children entrusted to others.(15) In Tugu Utara, most toddlers were cared for by their mothers, which should theoretically strengthen bonding and emotional security, factors

linked to normal growth. However, despite this positive aspect, other critical components, such as proper feeding techniques, variety of food, and balanced nutrition, were not achieved. This indicates that emotional closeness and good intentions alone cannot offset the nutritional and behavioral deficits contributing to stunting. These findings highlight the complexity of stunting as a multifactorial issue where psychosocial bonding must be complemented by practical, evidence-based care.

Although most mothers in Tugu Utara directly care for their toddlers and report that their children are easy to feed, the persistence of stunting indicates that correct feeding practices are still lacking. Mothers strive to improve their children's nutrition, but gaps remain in applying balanced and age-appropriate feeding techniques.(16) While Posyandu officers provide general counseling and advise mothers to visit the health center when the child is sick, these efforts may not fully address the underlying issues, such as improper meal composition, irregular schedules, and reliance on low-nutrient snacks. This finding reflects that maternal motivation and access to health services alone are insufficient without targeted, practical education on correct feeding practices and responsive childcare.

Health workers and Posyandu cadres should adopt more structured, behavior-focused counseling on correct complementary feeding techniques, including meal composition, frequency, and snack management. Counseling should include practical demonstrations and the use of visual media to enhance mothers' understanding. Midwives can also integrate responsive feeding strategies into growth monitoring sessions, reinforcing maternal skills during routine Posyandu visits. Local health programs should allocate resources for continuous maternal education that goes beyond general advice. Policies can mandate the development of standardized counseling modules for Posyandu cadres, ensuring uniformity in message delivery. Additionally, providing low-cost, nutritious recipe options tailored to local food availability can bridge the gap between knowledge and practice.

Further research is needed to explore why mothers who demonstrate strong caregiving efforts still fail to prevent stunting. Studies could examine psychological, cultural, and economic barriers influencing maternal feeding decisions. Intervention studies that test the effectiveness of family-based nutrition education or structured home visits on improving feeding practices would provide valuable evidence for policy and program design.

Maternal Parenting Based on Hygiene with the Incidence of Stunting in Toddlers

This study highlights how hygiene practices, while generally present, contain critical gaps that may contribute to stunting despite apparent maternal efforts. Most mothers reported washing hands and maintaining a clean home environment; however, handwashing was often done without soap, and some feeding practices occurred in distracting settings, such as while walking or watching television. These findings illustrate that surface-level compliance does not always translate into effective hygiene, which remains a key determinant in preventing infections that exacerbate chronic malnutrition.

Previous research strongly links hygiene behavior to stunting risk. Rahmayana et al. (2015) found that good hygiene correlates with better growth outcomes, as shown by 61.9% of normal children practicing appropriate hygiene.(10) Similarly, Bela et al. (2020) demonstrated that poor hygiene increases the likelihood of stunting 7.19 times compared to good hygiene habits.(11) While our findings partially align with these studies, they add nuance by showing that even when mothers bathe children regularly and clean the home daily, the absence of soap in handwashing and inadequate food hygiene persist as overlooked risks. Milah and Zaqiyah (2020) also emphasized that personal and food hygiene significantly prevent infectious diseases; our observations confirm that incomplete application of these practices, such as failing to use soap, could sustain disease exposure despite frequent cleaning.(17) This paradox suggests that maternal commitment and routine behaviors are not enough without proper technique and knowledge. Cultural norms

and limited understanding of why soap is essential for hand hygiene may explain why these gaps persist. Additionally, while mothers prioritize visible cleanliness (bathing, sweeping), they may undervalue less visible but equally important measures like food safety or eliminating microbial contamination in water storage.

Health workers and Posyandu cadres have provided counseling on hygiene and sanitation, and home visits have been conducted.(18) However, these interventions appear to focus more on observation than on structured education to correct misconceptions. Our findings reveal that maternal compliance often reflects habit rather than informed behavior change, underscoring the need for targeted and context-specific counseling strategies.

Midwives and Posyandu cadres should strengthen hygiene education by focusing on practical, behavior-based demonstrations, such as correct handwashing with soap and safe water storage, rather than assuming knowledge translates into correct practice. Counseling should also address feeding environments to minimize distractions and improve child responsiveness during meals.

Policy efforts should mandate continuous hygiene promotion integrated with nutrition programs. Providing low-cost hygiene kits (soap, water storage covers) during Posyandu visits, along with structured monitoring, could reinforce correct practices. Training programs for cadres should emphasize interactive, participatory methods rather than passive information delivery.

Further research is needed to understand cultural beliefs and behavioral drivers behind incomplete hygiene practices, even in households that demonstrate strong visible cleanliness. Intervention studies could evaluate the effectiveness of hands-on demonstrations and incentive-based programs in improving hygiene compliance and reducing stunting incidence.

Maternal Parenting Based on Habits of using health care facilities with the Incidence of Stunting in Toddlers

This study reveals that while mothers in Tugu Utara demonstrate strong engagement with health services, such as routinely attending Posyandu and visiting puskesmas when their children are ill, critical service gaps and missed opportunities persist. Immunizations were incomplete for some toddlers, and child development activities were not implemented at Posyandu RW 10. This paradox indicates that access alone does not guarantee comprehensive care, the quality and scope of services provided are equally important in preventing stunting.

Previous studies emphasize that health services, including immunization, growth monitoring, and counseling, are essential for disease prevention and improving nutritional status.(19) Bella et al. (2020) also highlights the role of maternal participation in health counseling as a preventive factor against stunting.(11) Our findings align partially with this evidence but reveal important limitations. For instance, while mothers utilize available services, the absence of structured growth and development programs and the lack of targeted counseling undermine the potential benefits of regular attendance.

Incomplete immunization, reported to occur because the child was sick, reflects real-world barriers that disrupt ideal immunization schedules. These delays increase vulnerability to infections that can exacerbate chronic malnutrition, reinforcing the stunting cycle.(20) Additionally, environmental hygiene issues identified in this study may further compromise child immunity, suggesting interconnected risks between health service utilization and household practices.(21)

The lack of child growth activities at Posyandu represents a significant missed opportunity. Despite mothers' commitment to attending monthly sessions, no interventions addressing stimulation or detailed feeding guidance were observed. This gap highlights the need for a more integrated approach where frequent contact points, like Posyandu visits,

are leveraged to deliver holistic care, including practical feeding education and developmental monitoring.

The findings of this study have several implications for midwifery and public health practice. Healthcare providers at Posyandu should take advantage of the high attendance rates by delivering structured interventions during routine visits. These efforts could include proactive follow-up for immunization completion, such as home visits or reminder systems, especially for children who miss scheduled vaccines due to illness. In addition, developmental counseling should be incorporated into regular weighing sessions, offering mothers practical guidance on stimulation and responsive feeding. Given the absence of formal child development activities in the observed setting, health education should also be delivered through simple, visual demonstrations that can be understood and implemented easily by mothers.

From a policy perspective, local health authorities and puskesmas management need to prioritize standardized counseling protocols for Posyandu cadres. These protocols should ensure consistency in delivering messages on feeding practices, immunization catch-up strategies, and developmental stimulation. Furthermore, government support is necessary to provide funding for child development programs and the creation of engaging educational media to enhance the quality of counseling. Policies should also allow flexible immunization schedules to accommodate children who miss appointments because of illness, thereby reducing the risk of incomplete immunization and its potential impact on stunting.

Finally, the study highlights the need for further research to strengthen evidence-based interventions. Future studies should assess the effectiveness of integrated Posyandu services that combine immunization, nutrition counseling, and developmental stimulation in one visit. Additional research is also required to identify the barriers and facilitators influencing immunization completion among families in urban low-income settings, including cultural, economic, and systemic factors. Moreover, investigating the impact of structured counseling interventions compared to current ad hoc approaches will provide valuable insights for improving maternal practices and reducing stunting rates.

Maternal Parenting Based on Support with the Incidence of Stunting in Toddlers

Our study reveals that while spousal support is a consistent and valuable resource for mothers of stunted toddlers, the nature and reliability of support from the extended family appear to vary significantly. This variability impacts the mother's ability to manage the complex demands of caring for a child with stunting. In most cases, husbands were actively involved, providing emotional encouragement and tangible assistance, such as asking about child development or urging children to eat. However, observations suggest that extended family members, such as grandmothers or other relatives living in the same household, were often less engaged or appeared indifferent. This lack of broader family involvement places greater pressure on mothers, even when husbands are supportive, and underscores the central role of spousal support in these households.

The importance of family support, particularly that of husbands, in influencing child health outcomes has been widely recognized. Supportive family behavior strengthens maternal confidence and motivation to address challenges, including those associated with stunting.(22) This aligns with Juliandika et al. (2022) findings, which demonstrated a significant association between positive husband support and lower stunting rates, reporting that among stunted toddlers, 56.5% had supportive husbands, while among normal toddlers, 79% had supportive husbands.(23) Similarly, Rahayu et. al (2022) confirmed the effect of husband support on stunting incidence in Sukabumi.(24) While these quantitative studies establish a statistical correlation, our qualitative findings provide deeper insight into how such support operates in daily life. For example, Informant 1 described her husband as actively encouraging, sometimes even "forcing", children to eat. This illustrates the

intensity of paternal involvement but also raises questions about responsive feeding practices, suggesting that well-intentioned actions could have unintended consequences.

A notable contribution of this study is its exploration of extended family dynamics, an area often overlooked in prior research focusing primarily on spousal support. While literature emphasizes the husband's role, our observations indicate that inconsistent support from other household members can exacerbate maternal stress and limit opportunities for shared caregiving. This contextual nuance is critical, as it highlights that strong spousal support alone may not be sufficient to overcome structural and behavioral challenges related to child nutrition. Furthermore, it underscores the multifaceted nature of caregiving, where emotional commitment must be complemented by accurate feeding knowledge and cooperation among all family members.

Implications of these findings are significant for practice, policy, and future research. In terms of practice, midwives and Posyandu cadres should leverage the strong presence of husbands by incorporating them into stunting prevention and management programs. Husband-targeted education sessions during Posyandu visits could equip fathers with knowledge about balanced nutrition and responsive feeding to ensure their support translates into positive outcomes rather than unintended harm, such as pressuring children to eat. Additionally, healthcare providers should assess and strengthen broader family support networks, particularly in households where extended family members appear disengaged. Community-based programs could involve grandmothers and other relatives through group counseling sessions, emphasizing shared caregiving responsibilities and practical contributions beyond emotional support.

From a policy perspective, these findings suggest the need to formalize family involvement within maternal and child health initiatives. Public health programs could develop structured modules that educate entire households about the importance of nutritional care and emotional support for children with stunting. Policies should promote a family-centered approach in which interventions target not only mothers but also spouses and key household members, reinforcing that stunting prevention is a collective responsibility.

Finally, this study opens avenues for future research. Further qualitative studies could explore mothers' perceptions of different types of support and their preferences for assistance. Comparative research across cultural contexts is needed to understand the role of extended family dynamics in influencing stunting outcomes. Additionally, intervention-based research should evaluate the effectiveness of strategies designed to enhance husband engagement and broaden family support, determining how such approaches impact maternal practices and child growth indicators over time.

Limitations and Future Directions

This qualitative case study was limited to a single urban setting with a small sample size, which restricts the generalizability of findings. Data relied on self-reporting and limited observations, potentially introducing recall and social desirability bias. The study also focused mainly on mothers, with minimal input from fathers or extended family members, and did not use standardized dietary or developmental assessments. Future research should include larger, more diverse samples, incorporate quantitative measures, and explore the roles of other caregivers. Intervention-based and longitudinal studies are recommended to assess the effectiveness of family-focused education and integrated Posyandu programs in improving child feeding practices and reducing stunting.

CONCLUSION

This study highlights the complexity of maternal parenting in relation to stunting among toddlers in an urban low-income setting. Despite strong maternal commitment and frequent Posyandu attendance, gaps persist in complementary feeding practices, hygiene

behaviors, and the use of health services. Most mothers provided care directly and received spousal support, yet stunting continued, indicating that motivation alone is insufficient without proper knowledge and consistent support systems.

The findings underscore important implications for midwifery and public health practice. Interventions should focus on strengthening counseling at Posyandu with practical demonstrations on correct feeding, responsive parenting, and hygiene practices such as proper handwashing with soap. Programs should also involve fathers and extended family members, integrating family-centered education to enhance shared responsibility in childcare. At the policy level, efforts are needed to standardize counseling protocols, allocate resources for growth stimulation activities, and ensure comprehensive services at Posyandu, including flexible immunization follow-up. Future research should examine the effectiveness of integrated interventions that combine nutrition education, hygiene promotion, and family involvement strategies. Mixed-method and longitudinal studies across diverse settings are recommended to better understand cultural and structural barriers and to evaluate interventions that can sustainably reduce stunting.

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The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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