

Unveiling the dynamics of stunting: a qualitative exploration of parenting patterns and toddlers aged 6–59 months in Bejiharjo, Indonesia

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Purpose: This research was conducted to explore the experience of mothers in raising stunted toddlers aged between 6–59 months. It also examined the perceptions of parenting styles shaped by socio-cultural contexts and time constraints affecting the nutritional status as well as growth in Bejiharjo Village, Java, Indonesia. **Methods:** A qualitative method was used and data were collected through in-depth interviews, diary recording, and focus group discussions with mothers of toddlers, stakeholders, and healthcare professionals. Transcript data from recorded interviews were processed using qualitative content analysis. **Results:** The results showed that there were four emergent themes, namely “Toddler parenting patterns,” “Family and environmental health,” “Eating patterns and consumption habits of toddlers,” as well as “Literacy and understanding of parenting and child health.” Furthermore, eight related theme clusters were yielded from the analysis of parenting experiences. Differences between stunted and non-stunted toddlers in parenting patterns and daily activities were recorded. Interactions between toddlers and mothers as well as productive activities had a shorter average duration. **Conclusion:** Mothers experience various challenges and limitations in raising toddlers with the risk of stunting. Therefore, increasing understanding and knowledge about the importance of healthy parenting and good nutrition are necessary to prevent stunting.

Keywords: Growth disorders; Parenting; Child care; Mother-child relations

INTRODUCTION

Stunting is a global child health problem in various parts of the world, especially in developing countries, including Indonesia. It affects 25% of toddlers under five globally, significantly impacting cognitive outcomes [1]. Currently, stunting is a strategic issue in Indonesia, with a high prevalence rate of 21.6% in 2022 [2]. Most countries in Southeast Asia were recorded to have a considerably high percentage of stunted toddlers, and Indonesia was among those with ‘very high’ thresholds compared to other countries worldwide,

which have achieved rates below 2.5% (very low), including Chile, Estonia, Greece, Japan, Netherlands, Poland, Republic of Korea, Latvia, Germany, Lebanon, and Tonga [3].

According to various reports, stunting is a global health problem related to growth and development. It has a long-term impact on cognitive development, school performance, economic productivity, and maternal reproductive outcomes. Therefore, preventing this problem should be a top priority in global health and economic development [4]. Indonesia has diverse regional variations, hence, the main factors causing stunting could differ across different areas. Based on pre-

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vious research, determinants of stunting include low levels of maternal education, household income, environmental factors (source and access to clean water, sanitation, and hygiene), social and familial support, as well as healthcare services [5].

Stunting is not solely caused by malnutrition but also associated with poor parenting practices as well as inadequate health and nutrition before and after birth [6]. Several factors influence this problem in toddlers, including maternal knowledge, parenting styles, nutritional intake, low birth weight, and family economic status [7]. Diet, provision of nutrition, feeding practices, parental attention, and stimulation also play crucial roles [8]. Effective caregiving significantly impacts growth and development mainly through feeding practices, dietary variation, and maintaining hygienic living conditions to enhance nutritional levels and prevent stunting [9]. Parenting style is related to the dietary practices of toddlers [10], and poor eating patterns increase the risk of stunting due to unmet nutritional needs [11]. Furthermore, stunting can be caused by infectious diseases such as acute respiratory infection and diarrhea with high frequency [12].

Parenting style plays an important role in realizing optimal health in toddlers. The parenting function includes knowledge, competence, effort, responsibility, partnership, caring, teaching, and communication, which can improve the management of stunting [13]. Parenting or nurturing patterns include feeding and hygiene practices, as well as the use of medical services [14]. Poor knowledge about nutritional intake is associated with increased stunting at 36–60 months [15]. Furthermore, cultural values impact Indonesian parenting and child development, necessitating an understanding of how traditional cultural values influence parenting style [16]. In-depth knowledge of growth factors, including parenting patterns, allows healthcare professionals to play a proactive role in increasing understanding and providing education on how parents can improve stunting management [13]. This effort will support the development of holistic and sustainable treatment or intervention programs for stunting, thereby increasing the contribution of nurses to pediatric nursing practice and public health. In-depth qualitative research is needed to explore the experiences of parenting styles of mothers with stunting toddlers. With a deeper understanding, research can provide new insights that can be used to develop more effective interventions in preventing stunting and improving the well-being of toddlers.

METHODS

Ethical statements: This research was approved by the Research Ethics Commission of Gadjah Mada University (No. KE/UGM/025/EC/2024). Informed consent was obtained from all participants.

1. Qualitative Approach and Research Paradigm

This research used a qualitative descriptive phenomenological design, in line with a constructivist/interpretivist paradigm, to analyze and interpret data. This approach is primarily aimed at understanding the experience and perceptions of mothers regarding parenting patterns of stunted toddlers aged 6–59 months. This research followed the Standards for Reporting Qualitative Research guidelines [17].

2. Characteristics and Reflexivity

In-depth interviews and focus group discussions (FGDs) were conducted by the principal investigator, a female currently pursuing a master's degree with vast experience in conducting interviews and qualitative interpretation. Support was offered by a research team with doctoral backgrounds in demography. The interaction started when participants were invited and briefed on the objectives of the research, which focused on educational needs. The interviewer assumed that social and economic factors play a significant role in parenting and toddler health. The interest in this topic was driven by concerns about the high prevalence of stunting in the research area.

3. Composition of Research Participants

The participants were selected based on data from maternal and child health records in the local area. The purposive sampling method was used with considerations given to variations in the severity of stunting and socio-economic conditions. The research focused on mothers with toddlers aged 6–59 months in the complementary feeding period. Eligibility was confirmed by participants based on predefined criteria, and the research objectives were reiterated during the data collection process. Local stakeholders and community health workers assisted in identifying and recommending suitable participants from available data.

A total of nine individuals participated in FGDs in group 1 and seven individuals in group 2. Additionally, five stakeholders and two healthcare professionals participated in in-depth interviews, and diary entries were collected from seven mothers with non-stunted and stunted toddlers each (Table 1). The diversity of backgrounds aimed to capture various

perspectives and experiences regarding childcare practices and stunting occurrences. The selection aimed to ensure a broad representation of experiences relevant to the research objectives while adhering to ethical guidelines and respecting participant privacy as well as consent.

Table 1. General Characteristics of Research Participants

Data collections	Number	Age (year)	Education	Job
FGDs	Group 1: Housewife (n=9)			
	1	30	High	Housewife
	2	23	Intermediate	Housewife
	3	38	High	Housewife
	4	24	High	Housewife
	5	30	High	Housewife
	6	38	High	Housewife
	7	25	Intermediate	Housewife
	8	28	High	Housewife
	9	42	High	Housewife
	Group 2: Working mother (n=7)			
	1	36	High	Officer
	2	31	Intermediate	Community health volunteer
	3	25	High	Private employee
	4	42	High	Community health volunteer
	5	27	Basic	Laborer
	6	47	Intermediate	Laborer
7	38	High	Trader	
Personal in-depth interview	Stakeholder (n=5)			
	1	48	High	Community health worker
	2	47	Master's	Consultant and task force for accelerating stunting reduction
	3	50	Master's	Sub-coordinator of the local government for the health and social substance group
	4	37	Advanced	Local government's planning analysis division
	5	58	Bachelor's	Coordinator of the family planning agency at the district level
	Healthcare professional (n=2)			
	1	26	Advanced	Nutritionist
	2	27	Advanced	Nutritionist
Research diaries	Mother has a non-stunted (n=7)			
	1	31	Intermediate	Housewife
	2	38	Intermediate	Laborer
	3	41	High	Housewife
	4	36	High	Officer
	5	39	High	Trader
	6	42	High	Housewife
	7	29	Intermediate	Housewife
	Mother has a stunted toddler (n=7)			
	1	38	Intermediate	Laborer
	2	26	High	Housewife
	3	38	High	Trader
	4	40	High	Farmer
	5	33	Basic	Trader
6	31	High	Housewife	
7	37	High	Housewife	

FGDs: focus group discussions.

4. Data Collection

Data were collected through a series of pre-research survey stages, research, and participant verification processes against interim results. In-depth interviews, research diaries, and FGDs were used to collect data. Generally, in-depth interviews and FGDs are standard data collection methods in qualitative research, providing insight into social, emotional, and experimental phenomena [18]. In this research, in-depth interviews were conducted using a semi-structured questionnaire to understand basic information about stunting, mothers experiences in caring for stunted toddlers, and healthcare professionals perspectives. Diary recordings were maintained for 7 days to monitor the activities of mothers and toddlers, ensuring representative data on behavior and activity patterns [19]. Meanwhile, FGDs were conducted using a semi-structured guide and card sorting activity to facilitate participant interaction and dynamic group discussion. This method also allowed participants to share experiences, views, childcare practices, and collaboratively discuss issues related to stunting. All data were recorded audio and transcribed in full adhering to research ethical principles, including respect for participant privacy and consent. In addition, the participants received tokens of appreciation for participation.

5. Theoretical Framework

Among the 37 invited participants, four mothers withdrew from the FGDs due to health issues and family commitments. Data collection was conducted at the participants homes in Kalurahan Bejiharjo, Kapanewon Karangmojo, and Gunungkidul, to ensure comfort and privacy. In some interview sessions, toddlers were present but did not participate. The sample consisted of mothers with toddlers, including stunted and non-stunted. The characteristics recorded include age, education level, and occupation. Interviews lasted between 40 and 60 minutes, while FGDs lasted approximately 70 minutes.

6. Data Analysis

This research used Colaizzi's descriptive phenomenological method, which entailed researching phenomena based on individual experiences, interviews, and diaries [20]. Data in transcribed results were identified for significant statements related to caring for stunted toddlers through repeated data

readings to observe consistency. Relevant information units were extracted and grouped into more prominent themes including clusters and emergent [21]. The qualitative data analysis process was aided by using NVivo software (Lumivero) to facilitate the coding and categorization of structured data. Subsequently, detailed descriptions were compiled based on these results. Data triangulation strengthened validity by comparing and confirming results from different sources. Saturation was marked by the presence of redundant themes or repeated development of meanings, indicating insignificant new information reappearing from the data.

7. Trustworthiness

Various qualitative research from diverse literature sources were explored and discussion sessions were also conducted to gain insights into the application of this research. The accuracy of the results was ensured through reliability and validity evaluations, including triangulation processes, reflexivity, member checking, and audit trails. Consistency in data interpretation was reinforced through triangulation, using data from various sources such as FGDs, in-depth interviews, diaries, and observation notes. The credibility and confirmability of the research were ensured through result verification with participants (member checking) [20,21] and the role of experts (audit trail) to enhance objectivity, evaluate data interpretation, and aid in increasing confirmability. Research dependability was achieved through direct and cross-confirmation with participants to mitigate bias. This method systematically documented the entire research process, including decisions made during data analysis.

RESULTS

This research obtained experience of parenting stunted toddlers in three parts, comprising 27 formulated meanings, eight theme clusters, and four emergent themes. The emergent themes consisted of "Toddler parenting patterns," "Family and environmental health," "Eating patterns and consumption habits of toddlers," and "Literacy and understanding of parenting and child health." as shown in Table 2.

After the initial analysis was completed, several participants were contacted to clarify and validate the results. Participants provided positive feedback and confirmed the accuracy of the results analyzed.

Table 2. Differences in the Perceptions of Knowledge

Formulated meanings (n=27)	Theme clusters (n=8)	Emergent themes (n=4)
<ul style="list-style-type: none"> •The application of traditional knowledge-based parenting patterns by the grandmother. •The toddlers predominant interaction with the grandmother is due to the working mothers limited time. •The grandmother provides nutrition intake and parenting without adequate and appropriate knowledge. •Decision interventions by the grandmother related to childcare. •The grandmother childcare is based solely on ensuring the toddler is fed and calm. •Technological distractions, especially smartphones, during childcare activities diminished the quality of interaction with toddlers in intensive childcare. •There was a lack of maternal participation in healthcare services. •Mothers were less responsive to activities aimed at preventing stunting. •Insufficient training or stimulation was provided to toddlers to develop their fine and gross motor skills. •Toddlers were often left to watch television and smartphones to aid in their caregiving activities. 	Alternative parenting interventions	Toddler parenting patterns
<ul style="list-style-type: none"> •The family smoking habit was allowed to persist, resulting in the mother and child becoming passive smokers. •The father smoked in the area where the toddler growth and development occurred. •The toddler experienced respiratory tract diseases due to the presence of active smokers in the family. 	Family smoking habits	Family and environmental health
<ul style="list-style-type: none"> •The predominant intake consisted of carbohydrates without being balanced with the appropriate protein requirement. •Allergy to animal protein occurred due to the delayed introduction of such foods during the early phase of complementary feeding. •Vegetable-based foods were still considered more important than animal protein. •The toddler was selective about specific types of food. •The portions of food consumed by the toddler were minor and did not meet their ideal nutritional needs. •The toddler preferred snacks over nutritious staple foods. •The toddler tended to prefer refined, instant, and fast food options. •The family had a habit of drinking tea together. •In the mornings, the toddler used to prefer drinking tea over having a nutritious breakfast. 	Nutritional imbalance due to insufficient intake of animal protein Issues with food preferences and acceptance Risky drinking habits of toddlers	Eating patterns and consumption habits of toddlers
<ul style="list-style-type: none"> •There needed to be more willingness to seek information. •The mother needed a higher literacy level regarding the Maternal and Child Health Handbook. •The mother did not actively seek information regarding good parenting practices for her toddler. •Stunting was still understood as a condition where a child has both a short stature and low weight. •The mother needed help understanding information related to parenting. 	Mother's involvement and awareness of literacy Limitations and understanding of mothers about parenting and child health	Literacy and understanding of parenting and child health

1. Toddler Parenting Patterns

1) Alternative parenting interventions

Parenting interventions based on traditional experience and the limited knowledge of grandmothers as caregivers put toddlers at risk of stunting. In most cases, the mothers need to be more of the primary controller in child rearing and feeding becomes disrupted. The reluctance of mother and grandmother in toddler caregiving arrangements arose due to the potential for conflict or tension between different generations.

Poor parenting is sometimes due to interference from parents still in the same house as the mother. Sometimes you want to give food, and can't google it, like tea that is not allowed. But my parents said it was okay. Later, if we reply, we will make a case with our parents. (Group 1, Mother 4)

2) Mothers participation and responsiveness

Most participants indicated the presence of technological distractions for mothers, such as smartphone usage, leading to a lack of attention toward toddlers engaging in passive activities due to being directed to watch television. This resulted in reduced interaction and diminished motor skill training obtained. Furthermore, mothers with stunted toddlers sometimes showed less responsiveness to stunting intervention programs, leading to a lower level of participation in healthcare services activities.

If my child eats, it has to be while watching television (TV) or using a smartphone...if not watching TV, they refuse to eat. (Group 1, Mother 5)

Sometimes I got reports from Community Health Volunteers that there was a mother who didn't give a positive response to the child health service program, even though our goal was to improve her child's health so that his nutritional status would be good. (Healthcare professional 2)

2. Family and Environmental Health

1) Family smoking habits

The continuous smoking habit within the family led to mothers and toddlers becoming passive smokers. This was due to family members, including the father, smoking within reach of toddlers, which poses the risk of developing respiratory tract diseases due to constant exposure to active smokers

in the environment.

When looking at the majority, some are exposed to active and passive smoking, which can come from family members or other individuals. There are also indications that the mothers or father smoke. There are no rules and agreements within the family. (Stakeholder 2)

3. Eating Patterns and Consumption Habits of Toddlers

1) Nutritional imbalance due to insufficient intake of animal protein

The predominant intake consisted of carbohydrates without being balanced with the appropriate protein requirement. Allergy to animal protein occurred due to the delayed introduction of foods during the early phase of complementary feeding. Vegetable-based foods were still considered more important than animal protein.

Due to a lack of nutritional intake, he continues to eat carbohydrates instead of animal protein, and so on. Lack of protein, lack of minerals, lack of balanced nutritional intake. (Stakeholder 2)

Many still need to understand that they must be complete, even when given for the first time in 6 months. It has to contain carbohydrates, protein, fat, and vegetables; they only give rice and vegetables on average. Or just rice and tempeh. Or maybe he's afraid to give animal protein because he's afraid his child will be allergic, usually like that. (Healthcare professional 1)

2) Issues with food preferences and acceptance

The toddlers showed selective eating habits, consuming small portions that did not fulfill nutritional requirements. Mothers often followed toddlers preferences, opting for snacks, processed, and fast food over nutritious staples.

Perhaps like other mothers, when the parents are working and the child is left alone, just to keep the child calm, they are given whatever they want, such as if they only want noodles or snacks, then they don't want rice and vegetables. (Group 2, Mother 1)

The risky parenting style is that the child eats according to taste, not to need. (Group 2, Mother 7)

3) Risky drinking habits of toddlers

Most families in the research had a tradition of drinking tea together, with the toddler often preferring tea over a nu-

tritious breakfast in the morning. Additionally, some mothers mentioned providing toddlers with tea as a habitual practice, indicating that breaking this routine would have required discontinuing tea consumption altogether.

The culture of people here is to drink tea every morning. Then, the toddlers habitually join (drinking tea) with the grandparents in the morning. (Group 1, Mother 3)

If my child always asks for tea in the morning and afternoon, they use their own glass. Because it's a habit, if it's not made, the child will ask for it. But if you want to eliminate it, not drinking tea is not an option either, so every day we still always drink tea. (Group 1, Mother 7)

4. Literacy and Understanding of Parenting and Child Health

1) Mothers role and awareness of literacy

Mothers still needed more desire to gather information about parenting, such as having low literacy regarding the Maternal and Child Health Handbook (MCH) and not taking advantage of available access to information through the internet. The passive approach to acquiring knowledge about good parenting practices further hindered the ability to care for toddlers effectively. This gap in information-seeking behavior negatively impacted the quality of parenting provided.

Now, everyone has cellphones; all you have to do is be willing to open up the information. The MCH book is also available for mothers knowledge. (Group 1, Mother 6)

2) Limitations and understanding of mothers about parenting and child health

The mother still misunderstood stunting as merely a condition causing short stature and low weight. This misconception can be attributed to the limited comprehension of parenting information. Therefore, the ability to address and prevent stunting was compromised.

Lack of understanding about giving food to toddlers is the most common cause of stunting; ultimately, the feeding is wrong, and the intake could be more optimal. (Healthcare professional 1)

Every mother has a different busy schedule and activity patterns. This research summarized conditions in the average data on activities carried out by mothers and toddlers in one day. Therefore, the data showed the time allocation of activities carried out, as well as toddlers daily interactions.

The average interaction time between stunted toddlers and mothers was smaller than that of normal. Compared to normal, stunted toddlers spent much more time with grandmother in parenting (Figure 1). Furthermore, mothers with stunted toddlers tended to have less time for care compared to those with normal (Figure 2). The majority of stunted toddlers spent the daily time watching television, cell phones, and playing more than normal (Figure 3). The results also showed that normal toddlers had more study time on average than stunted ones. In this case, learning activities were aimed at supporting cognitive abilities as well as motor and sensory training.

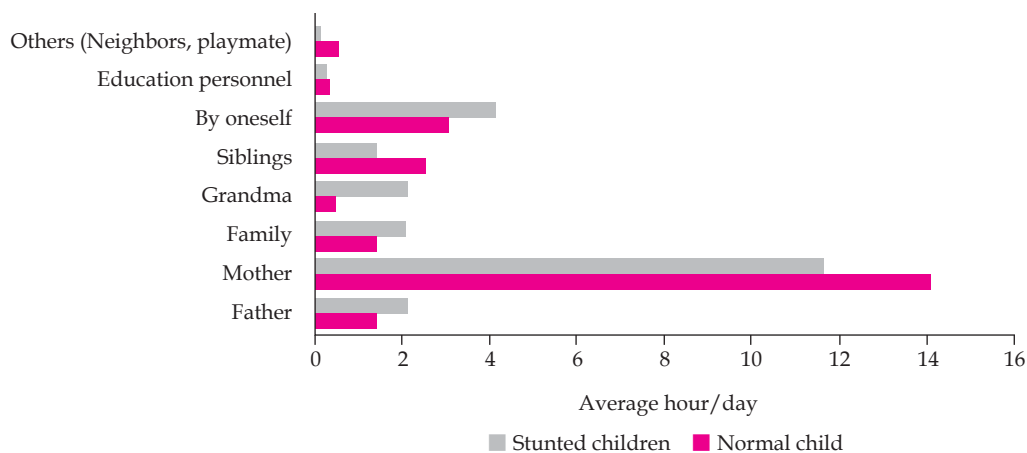


Figure 1. Average daily interaction time for toddlers.

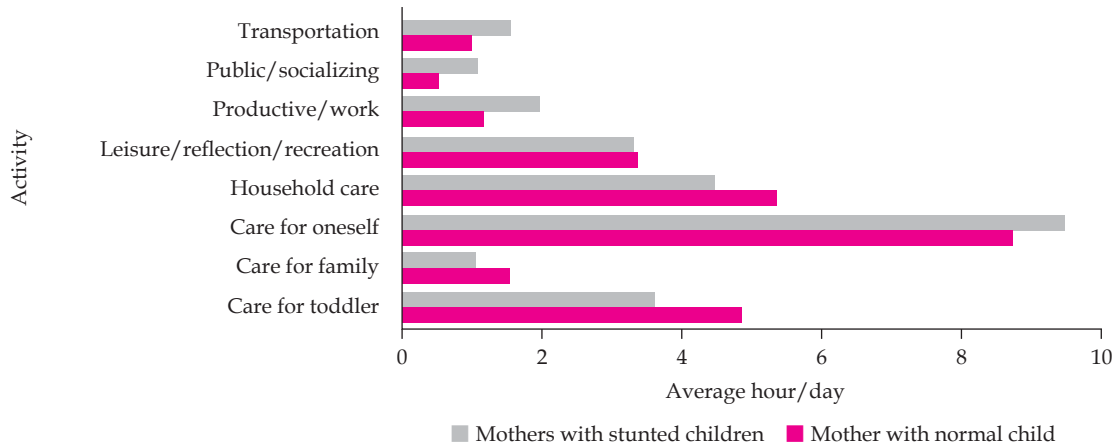


Figure 2. Average daily activities of mothers.

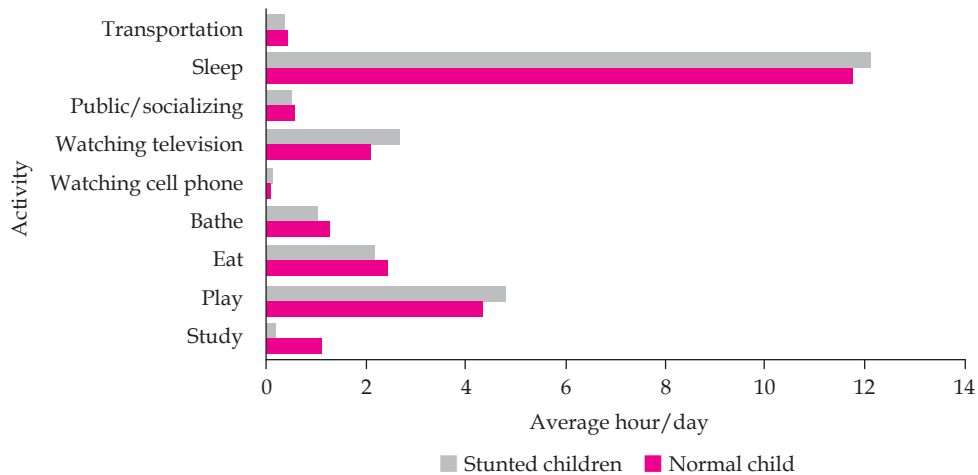


Figure 3. Average daily activities of toddlers.

DISCUSSION

Through qualitative analysis, this research extracted four emergent themes, exploring mothers experiences caring for stunted toddlers. In the first theme, mothers shared parenting experiences concerning “Toddler parenting patterns.” Regarding alternative parenting interventions, parental styles can lead to stunting within the extended family, particularly related to grandmothers and the socio-cultural structures that give rise to traditional practices, especially in feeding patterns [22]. Other results showed that interactions between stunted toddlers and mothers tended to be less frequent than those with normal (Figure 1). This may be due to various factors, such as mother health, schedule, or the additional needs in caring for a stunted toddler, which limits interaction time. It was also found that parental role in childcare limited the

mothers complete control. The grandmother participation in caring for grandchildren impacts parenting dynamics due to differences in socio-economic backgrounds and life experiences [23]. Grandmother intervention in childcare is part of risky parenting practices due to a lack of knowledge. This affects all decisions made, including feeding preferences for toddlers. Common issues include a need for nutritional knowledge, improper parenting guidelines, and physical limitations. Therefore, family members must communicate openly and agree regarding childcare and feeding. Shared understanding and consensus will help reduce potential conflicts and create an environment that supports the growth and development of toddlers.

Regarding mothers participation and responsiveness in toddler care, it was found that awareness of active role in health services still needs to be improved, especially for

mothers with stunted toddlers. More attention should be given to enhancing interaction and emotional intelligence. This condition is consistent with results showing that mothers with non-stunted toddlers focus more on child and family care needs, while those with stunted toddlers tended to spend more time on other activities, including traveling and engaging in productive activities/work (Figure 2). Parent-child interaction in caring for and feeding toddlers is a part of the parenting style [24]. Additionally, stunted toddlers tend to spend more time engaging in activities such as sleeping, watching television, watching on smartphones, and playing than normal (Figure 3). Non-stunted or normal toddlers have better basic motor skills than stunted ones [25]. On average, normal toddlers engage more in learning activities, including motor and sensory training provided by parents, than stunted. Excessive television exposure increases the risk of delays in cognitive, language, and motor development [26]. Stunted toddlers may experience cognitive, motor, and sensory development limitations due to a lack of provided stimulation, while normal are more likely to achieve optimal growth and development.

The second theme category pertains to "Family and environmental health." In this context, the smoking habits of family members and neighbors within the toddlers vicinity have the potential to disrupt growth and development. Exposure to cigarette smoke also increases the risk of respiratory infections, and the constituent substances affect nutrient absorption as well as hemoglobin function, thereby inhibiting nutrient absorption and increasing the risk of stunting [27].

In the third identified theme category, "Eating patterns and consumption habits of toddlers," it was found that mothers were not yet fully aware of the balanced nutritional intake needed, such as consuming too many carbohydrates and insufficient animal protein, along with inadequate food variety. Incorrect parental feeding practices can lead to stunting in toddlers [28]. The preference for less nutritious food types by toddlers also posed a challenge for mothers in implementing a healthy diet. Additionally, the habit of drinking tea as part of regional traditions and family customs, is a risky parenting practice. The risk of microcytic anemia is higher in toddlers who consume tea [29]. This habit typically develops after toddlers complete the breastfeeding phase, which is after the age of 2 years. Despite the awareness that drinking tea can hinder iron absorption and is not an optimal nutritional choice, this habit is difficult to eliminate and has become a part of cultural identity.

The fourth theme category, "Literacy and understanding of parenting and child health," showed that limited knowledge poses a challenge in implementing healthy parenting practices, with social support playing a crucial role. Mothers with access to productive information tend to have normal toddlers free of stunting [30]. Parents knowledgeable about stunting tend to actively acquire information about balanced nutrition and apply appropriate parenting practices [31]. Based on the results, participants felt mothers still lacked the initiative to obtain child health information through various media, books, and the Internet. Therefore, efforts to educate and empower parents regarding healthy parenting practices are essential to reducing the incidence of stunting and enhancing the overall well-being of toddlers.

Based on previous research, parenting dynamics in Indonesia are influenced by customs, habits, communication patterns, and local cultural values [32]. In cross-cultural research, it was found that parents in Indonesia tended to prefer an authoritarian parenting style compared to those in Australia, who were more inclined to use an authoritative style, impacting emotional and behavioral issues among toddlers [33]. Furthermore, parenting styles in Indonesia are often associated with strong family traditions and culture, which play an essential role in decision-making related to dietary patterns and social interactions.

In this research, interviews with participants were conducted in Indonesian with some inclusion of local dialects. The interviewer possessed expertise in the local dialects and nuance in the translation. Consistency in understanding meaning was ensured through discussions with the research team. Additionally, the back-translation validation method was used to ensure the accuracy of the translation and consistency of meaning with the original language version. This approach ensured that the translations used were accurate and faithfully reflected the intended meanings of the participants.

CONCLUSION

In conclusion, based on the qualitative research results obtained through in-depth interviews, focused group interviews, and diaries, four categories were identified namely "Toddlers parenting patterns," "Family and environmental health," "Eating patterns and consumption habits of toddlers," and "Literacy and understanding of parenting and child health." Parenting patterns play a crucial role in the

growth and development of toddlers. Based on the experiences of mothers raising stunted toddlers, at-risk parenting patterns, environmental health, inadequate eating patterns, and lack of maternal knowledge are significant contributors. Therefore, education, counseling, and guidance for parents and families are essential in enhancing community awareness about the importance of childcare practices, nutrition provision, and providing a healthy environment for toddlers. Although this research has limitations, such as the inability to determine the causal relationship between parenting patterns and stunting in specific value units, the results significantly contribute to understanding the aspects contributing to stunting. Further research using longitudinal designs and larger samples is needed to explore causal relationships and test the effectiveness of different intervention strategies.

ARTICLE INFORMATION

Authors' contribution

Conceptualization: all authors; Data collection: Intan Azzahra; Formal analysis: all authors; Writing-original draft: Intan Azzahra; Writing- review and editing: all authors; Final approval of the published version: all authors.

Conflict of interest

No existing or potential conflict of interest relevant to this article was reported.

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Data availability

Please contact the corresponding author for data availability.

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REFERENCES

1. Perkins JM, Kim R, Krishna A, McGovern M, Aguayo VM, Subramanian SV. Understanding the association between stunting and child development in low- and middle-income countries: next steps for research and intervention. *Social Science & Medicine*. 2017; 193:101-109. <https://doi.org/10.1016/j.socscimed.2017.09.039>
2. Ministry of Health of Republic Indonesia. [The pocket book: results of the 2022 Indonesian Nutrition Status Survey (SSGI)]. Ministry of Health of Republic Indonesia; 2023. p. 5-6. Indonesian.
3. World Health Organization (WHO), United Nations Children's Fund (UNICEF) & International Bank for Reconstruction and Development/The World Bank. Levels and trends in child malnutrition: UNICEF/WHO/World Bank Group joint child malnutrition estimates: key findings of the 2023 edition. UNICEF and WHO; 2023. p. 5-25.
4. Dewey KG, Begum K. Long-term consequences of stunting in early life. *Maternal & Child Nutrition*. 2011;7(Suppl 3):5-18. <https://doi.org/10.1111/j.1740-8709.2011.00349.x>
5. Nugroho E, Wanti PA, Suci CW, Raharjo BB, Najib N. Social determinants of stunting in Indonesia. *Jurnal Kesehatan Masyarakat*. 2023;18(4):546-555. <https://doi.org/10.15294/kemas.v18i4.40875>
6. Hamal DK, Nursyarofah N, Qualifa A. [Gender and birth length as factors for stunting in Majene Regency, West Sulawesi Province in 2018 (data analysis of riskesdas 2018)]. *Arsip Kesehatan Masyarakat*. 2021;6(2):7685. Indonesian. <https://doi.org/10.22236/arkesmas.v6i2.7685>
7. Yanti ND, Betriana F, Kartika IR. [Factors contributing to stunting in children: a literature review]. *Research of Education and Art Link in Nursing Journal*. 2020;3(1):1-10. Indonesian. <https://doi.org/10.32883/rnj.v3i1.447>
8. Nita FA, Ernawati E, Sari F, Kristiarini JJ, Purnamasari I. The influence of parenting on the incidence of stunting in toddlers aged 1-3 year. *Jurnal Ilmiah Kesehatan Sandi Husada*. 2023;12(2):399-405.
9. Wati IAA, Sulistyaningsih S. The role of parents to prevent stunting in toddlers: scoping review. *Jurnal Aisyah: Jurnal Ilmu Kesehatan*.

- 2023;8(2):987-996. <https://doi.org/10.30604/jika.v8i3.2037>
10. Lopez NV, Schembre S, Belcher BR, O'Connor S, Maher JP, Arbel R, et al. Parenting styles, food-related parenting practices, and children's healthy eating: a mediation analysis to examine relationships between parenting and child diet. *Appetite*. 2018;128:205-213. <https://doi.org/10.1016/j.appet.2018.06.021>
 11. Utami RN, Pandarugan SL, Nambiar N. The relationship between of knowledge parenting and food intake on the incidence of stunting in toddlers in Sukabumi Regency. *KnE Social Sciences*. 2023;International Conference Health, Social Science & Engineering: 267-277. <https://doi.org/10.18502/kss.v8i14.13836>
 12. Kitu HON, Syamruth YK, Purnawan S. Factors associated with stunting in toddlers under the service area of Bakunase Primary Health Center in Kupang City. *Journal of Public Health for Tropical and Coastal Region*. 2023;6(2):37-48. <https://doi.org/10.14710/jphtr.v6i2.18034>
 13. Pradana Putri A, Rong JR. Parenting functioning in stunting management: a concept analysis. *Journal of Public Health Research*. 2021;10(2):2160. <https://doi.org/10.4081/jphr.2021.2160>
 14. Rohmawati WA, Kasmini OW, Cahyati WH. The effect of knowledge and parenting on stunting of toddlers in Muna Barat, South East Sulawesi. *Public Health Perspectives Journal*. 2019;4(3):224-231.
 15. Siregar GCC, Lubis WH. The relationship of mother's knowledge to the incidence of stunting in children at the Bromo Public Health Center, Medan Denai, Indonesia. *Eureka Herba Indonesia*. 2023; 4(2):202-205. <https://doi.org/10.37275/ehi.v5i1.68>
 16. Riany YE, Meredith P, Cuskelly M. Understanding the influence of traditional cultural values on Indonesian parenting. *Marriage & Family Review*. 2017;53(3):207-226. <https://doi.org/10.1080/01494929.2016.1157561>
 17. O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. *Academic Medicine*. 2014;89(9):1245-1251. <https://doi.org/10.1097/ACM.0000000000000388>
 18. Minhat HS. An overview on the methods of interviews in qualitative research. *International Journal of Public Health and Clinical Sciences*. 2015;2(1):210-214.
 19. Eurostat. Harmonised European time use surveys: 2018 guidelines. Publications Office of the European Union; 2019. p. 10-29.
 20. Morrow R, Rodriguez A, King N. Colaizzi's descriptive phenomenological method. *Psychologist*. 2015;28(8):643-644.
 21. Gumarang BK, Jr, Mallannao RC, Gumarang BK. Colaizzi's methods in descriptive phenomenology: basis of a Filipino novice researcher. *International Journal of Multidisciplinary: Applied Business and Education Research*. 2021;2(10):928-933. <https://doi.org/10.11594/ijmaber.02.10.10>
 22. Heriawan T. Ntino ngasuh cucung: dari kultural, pola asuh tradisional hingga penyebab stunting. *Indonesian Journal of Religion and Society*. 2021;3(2):59-68. Indonesian. <https://doi.org/10.36256/ijrs.v3i2.239>
 23. Gattai FB, Musatti T. Grandmothers' involvement in grandchildren's care: attitudes, feelings, and emotions. *Family Relations*. 1999;48(1):35-42. <https://doi.org/10.2307/585680>
 24. Ningsi NW, Andriani D. Parenting style related to stunting incidents in toddlers aged 24-59 months. *Jurnal Ilmiah Kesehatan*. 2023;5(1):18-23. <https://doi.org/10.36590/jika.v5i1.420>
 25. Komaini A, Mardela R. Differences of fundamental motor skills stunting and non stunting preschool children in kindergarten in North Padang. *IOP Conference Series: Materials Science and Engineering*. 2018;335:012131. <https://doi.org/10.1088/1757-899X/335/1/012131>
 26. Lin LY, Cherng RJ, Chen YJ, Chen YJ, Yang HM. Effects of television exposure on developmental skills among young children. *Infant Behavior & Development*. 2015;38:20-26. <https://doi.org/10.1016/j.infbeh.2014.12.005>
 27. Qamarya N, Hayati Z. The relationship between cigarette smoke exposure with acute respiratory infections (ARI) and stunting in Bima 2022. *Science Midwifery*. 2022;10(4):2921-2927. <https://doi.org/10.35335/midwifery.v10i4.732>
 28. Pradnyawati LG, Kartinawati KT, Juwita DAPR. Parenting pattern of feeding in stunting toddlers at the working area of Tegallalang I Primary Health Centre. *Journal of Community Empowerment for Health*. 2019;2(2):208-216.
 29. Merhav H, Amitai Y, Palti H, Godfrey S. Tea drinking and microcytic anemia in infants. *American Journal of Clinical Nutrition*. 1985;41(6):1210-1213. <https://doi.org/10.1093/ajcn/41.6.1210>
 30. Pertiwi MR, Lestari P, Ulfiana E. Relationship between parenting style and perceived information sources with stunting among children. *International Journal of Nursing and Health Services*. 2019; 2(4):273-279.
 31. Santoso DYA, Livana PH. Accelerate reduction of stunting: knowledge and parenting patterns of parents with stunting toddler in Kendal District. *Indonesian Journal of Global Health Research*. 2023;5(3):467-472.
 32. Satrianingrum AP, Setyawati FA. The differences of parenting pattern assessed from various tribes in Indonesia: literature review. *Jurnal Ilmiah Pendidik dan Tenaga Kependidikan Pendidikan Non Formal*. 2021;16(1):25-34. <https://doi.org/10.21009/JIV.1601.3>
 33. Riany YE, Haslam DM, Sanders M. Parental mood, parenting style and child emotional and behavioural adjustment: Australia-Indonesia cross-cultural study. *Journal of Child and Family Studies*. 2022;31(9):2331-2343. <https://doi.org/10.1007/s10826-021-02137-5>