



Effect of Caregiver Practices on Optimizing Toddlers' Healthy Growth and Development



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Authors

Gobel G.V.¹ MSc

Lusmilasari L.² PhD

Haryanti F.^{2*} PhD

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¹Department of Nursing, Faculty of Medicine, Public Health and Nursing, Gadjah Mada University, Yogyakarta, Indonesia

²Department of Child and Maternity Nursing, Faculty of Medicine, Public Health and Nursing, Gadjah Mada University, Yogyakarta, Indonesia

*Correspondence

Address: Department of Child and Maternity Nursing, Faculty of Medicine, Public Health and Nursing, Gadjah Mada University, Depok, Sleman Regency, Special Region of Yogyakarta, Indonesia. Postal Code: 55281

Phone: +(62) 81328863574

Fax: +(62) 274581876

fitiharyanti@ugm.ac.id

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ABSTRACT

Aims This study aimed to explore caregiver practices for optimizing toddlers' healthy growth and development.

Participants & Methods This qualitative research was done using an explanatory case study design. Qualitative exploration was conducted through semi-structured in-depth interviews with 19 parent participants selected via purposive sampling. All interviews were audio recorded and transcribed verbatim. The transcriptions were screened for relevant information, manually coded, and analyzed using qualitative content analysis.

Findings Five themes related to caregiving practices emerged, including the fulfillment of children's health requirements, the provision of sufficient nutrition, responsive parenting, ensuring safety and security, and offering early learning opportunities.

Conclusion Comprehensive support for optimizing the growth and development of stunted children requires collaboration among parents, family members, health centers, government initiatives, community organizations, and professionals in the health, education, and social sectors.

Keywords Caregivers; Growth; Growth and Development; Nutritional Status; Qualitative Study

CITATION LINKS

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- [20] The incidence of stunting among children under five years old in terms of posyandu visits and exclusive breastfeeding behaviour
- [21] Developmental delay and its predictors among children under five years of age with uncomplicated severe acute malnutrition: A cross-sectional study in rural Pakistan
- [22] Analysis of the incidence of stunting on the development of children aged 6-24 months
- [23] Effects of maternal prenatal multi-micronutrient supplementation on growth and development until 3 years of age
- [24] Child growth and development: Infants, toddlers and preschool age

Introduction

According to the 2021 Indonesian Toddler Nutrition Status Survey, the prevalence of stunting remains significant, standing at 24.4%, which is equivalent to approximately 5.33 million affected toddlers [1]. In the specific context of Gorontalo Province in the same year, the stunting rate is notably higher at 29%, impacting 22,677 children under five. Gorontalo Province ranks as the 10th highest province nationally with the most concerning stunting rate. Within Gorontalo District, the stunting percentage for toddlers in 2021 is estimated to be 28.3%, affecting around 2,428 children. Furthermore, the Tilango Health Center is anticipated to have 205 stunted toddlers in the year 2022 [1].

One of the key factors contributing to toddler stunting is associated with the parenting practices employed by parents. In cases where children are affected by stunting, parents have traditionally focused on interventions aimed at restoring their anthropometric growth [2]. However, there is a notable lack of awareness regarding parenting strategies that can optimize and stimulate a child's overall development, leading to improvements in their health status [3].

Effective parenting practices, whether carried out by parents or caregivers, involve meeting fundamental needs, such as providing sufficient food and nutrition to support growth, along with essential healthcare for toddlers [4]. This includes practices, such as immunization, breastfeeding, regular weighing of babies and children, prompt treatment when a child is unwell, ensuring a suitable living environment, promoting personal hygiene, and maintaining good environmental sanitation [5].

Furthermore, fostering interaction and stimulation through play and learning activities is crucial for promoting both motor and cognitive development in children [6]. The significance of these practices is underscored by research findings, which indicate that mothers displaying inadequate parenting behaviors are 3.8 times more likely to have stunted toddlers compared to mothers who exhibit good parenting practices [7]. This emphasizes the pivotal role of parenting in the overall health and development of young children.

In 2018, the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO) collaborated to establish a framework aimed at enhancing early childhood development through a strategic program known as the Framework for Early Child Development. This comprehensive initiative comprises five essential domains or components crucial for the optimal development of children. These domains are as follows: ensuring child health, providing adequate nutrition, fostering responsive parenting, ensuring security and safety, and offering learning opportunities from an early age or early stimulation [8, 9].

The concept of nurturing care plays a pivotal role in this framework. Nurturing care is designed to assist parents and families in creating a supportive environment for children. It emphasizes the importance of high-quality, responsive parenting interactions to address children's needs for nutrition, health, security, safety, and early learning opportunities. By integrating these components into parenting practices, the framework aims to promote holistic and positive early childhood development [4]. Various studies underscore the significance of the Nurturing Care Framework (NCF) in identifying key factors that impact child development. A previous study [10] in seven African countries highlights that among the five domains of nurturing care, the stimulation of learning from an early age accounts for 24%, while security and safety protection constitute 36%, making them the most influential factors in early childhood development.

Previous research has emphasized the crucial role of parents, particularly mothers, in providing responsive care through interactions with their children highlighting the multifaceted nature of nurturing care and its various domains in positively influencing and promoting early childhood development [11]. A preliminary study on parenting in Gorontalo reveals that cultural factors significantly influence the upbringing of toddlers, impacting their dietary habits. Effective care for optimal growth involves integrating daily activities rooted in positive local culture. Therefore, this study aimed to explore caregiver practices for optimizing toddlers' healthy growth and development.

Participants and Methods

Design

This qualitative research used an explanatory case study research design and adhered to the guidelines outlined in the Consolidated Standards for Reporting Qualitative Research (COREQ) checklist [12].

Sample and setting

The sample comprised caregivers of stunted toddlers within the Tilango Health Center's catchment area, particularly focusing on a primary health center with a notably higher incidence of stunting. Following the qualitative research principles outlined by Creswell [13], which suggest a minimum of eight to ten participants or until saturation of themes is reached, a total of 19 caregivers were selected through purposive sampling. Inclusion criteria for participants included having toddlers aged 12 to 60 months who were categorized as short or very short, as well as a willingness to participate in the study. Additionally, exclusion criteria for this study included mothers of children with congenital problems, to avoid confounding factors that could influence the study's focus on stunting due to environmental or nutritional causes. The sample size was determined based on the principle of data

saturation. Data saturation occurs when interviews no longer yield new or relevant information, indicating that additional data collection would not contribute further to the research. Based on this criterion, we concluded our data collection with a total of 19 participants, as no novel insights were emerging from the interviews at that point.

Research tools

The primary instrument utilized to explore the parenting practices of caregivers with stunted toddlers was semi-structured interviews. In qualitative research, the researcher assumes the role of the key informant and is integral to the study. They fulfill multiple roles, including establishing the research focus, selecting informants as data sources, ensuring data quality during collection and assessment, conducting data analysis, interpreting findings, and drawing conclusions from the research. Furthermore, the researcher is capable of responding to stimuli during interactions with the subjects under study, thereby enriching the qualitative data-gathering process.

Data collection

Data collection occurred within the Tilango Health Center’s operational zone from February to April 2023. The research team, along with six assistants, facilitated the qualitative data collection process. This involved exploring parenting practices through in-depth interviews conducted with primary caregiver participants. Additionally, supportive participants, such as other family members involved in caring for stunted toddlers, were also included in the study. The methodology encompassed observation and documentation studies utilizing the maternal and child health (MCH) book to enhance the understanding of caregiving practices and child health management.

Data analysis

A case study approach was utilized, employing descriptive analysis methods as suggested by Creswell [14]. This approach involved entering specific information into descriptions, organizing data files, reading the entire text, making margin notes, forming initial codes, describing cases and contexts, reducing codes to themes through categorical aggregation to identify patterned regularities, linking categories to analytical frameworks in the literature, and presenting in-depth data about cases both narratively and in tabular form.

Trustworthiness

In this study, researchers employed several strategies to enhance research credibility. Firstly, triangulation was achieved by consulting various sources, such as husbands, wives, grandmothers, and grandfathers of stunted toddlers, for supporting information. Secondly, the researchers utilized reference materials, including sound recordings made during data collection, for added validation. Thirdly, a member check was conducted during transcript reviews to ensure clarity on aspects that were not well understood by the respondents. Lastly, regular checks with the supervisor involved discussions on data collection, categorization, analysis, interpretation, and research conclusions.

Findings

Participants’ characteristics

The participants were 19 women aged between 18 and 36 years (Table 1). The majority of respondents have completed high school. Additionally, ten participants belonged to the middle-income bracket, while nine participants were classified as low-income.

Table 1. Participants’ characteristics

Code	Age (year)	Educational status	Family economic status
P1	18	Senior high school	Middle-income
P2	24	Junior high school	Middle-income
P3	30	Senior high school	Low-income
P4	20	Elementary school	Middle-income
P5	25	Senior high school	Low-income
P6	39	Elementary school	Middle-income
P7	23	Senior high school	Middle-income
P8	19	Senior high school	Low-income
P9	24	Senior high school	Middle-income
P10	41	Senior high school	Low-income
P11	32	Elementary school	Low-income
P12	22	Senior high school	Middle-income
P13	26	Senior high school	Middle-income
P14	33	Senior high school	Low-income
P15	36	Senior high school	Middle-income
P16	35	Senior high school	Low-income
P17	26	Senior high school	Middle-income
P18	38	Junior high school	Low-income
P19	19	Junior high school	Low-income

Themes

This research revealed five key themes, encompassing the fulfillment of children’s health requirements, the provision of sufficient nutrition, responsive parenting, ensuring safety and security, and offering early learning opportunities (Table 2).

Table 2. Codes, categories, and themes

Codes	Categories	Themes
Integrated healthcare center Specialist obstetrician practice Hospital	Pregnancy check-ups	Fulfillment of children's health requirements
Immunization at Posyandu for toddlers Weighing Measuring height	Monitoring growth and immunization	
Immunization at the health center Take the sick child to the health center Injected by Mr. health worker	Care during illness	

Continue of Table 2 from the last page.

<p>Seek treatment from a doctor Buy medicine yourself at the pharmacy Make traditional herbal remedies Rice, fish, vegetables Drink milk 3 times Eat watermelon Pregnant women's biscuits Drink tea Raw rice Corn soup Rice, fish Breastfeed Drink formula milk Introduced to solid food at 3 months with breast milk Biscuits and milk Instant porridge Sago flour and rice flour Porridge and eggs Rice, fish soup, mixed vegetables Do not eat fruit Snacks and boxed milk Yellow rice Tofu and tempeh Do not like fish Do not like vegetables Rice, fried fish, bean sprout vegetables Do not drink milk Sweet potatoes and bananas Watermelon Porridge and eggs Drink milk Toddler biscuits from the health center Sugared water Salty rice and oil Cucumber Only likes papaya</p>	<p>Maternal nutrition during pregnancy</p>	
<p>Eating, playing, and sleeping indoors Bathing, eating, sleeping with aunt or grandmother Bathing, eating, drinking milk with grandmother Playing with toy cars and playing ball Going for a walk with dad</p>	<p>History of breastfeeding and complementary feeding</p>	<p>Provision of sufficient nutrition</p>
<p>Tidying up piles of old iron Making road signs Making a bridge with railings Making a small fence in front of the house Tidying up the room from dangerous objects Pinched a little Scolded loudly</p>	<p>Nutritional provision for the child</p>	
<p>Making home toys from popsicle sticks Learning to sing through a phone Cannot stack cubes Learning to count on the phone Learning to read by themselves at the store with their friends Already good at talking Still walking unsteadily Holding my hand Assisted when standing Falls when hands are let go Seems helpless Cannot hold a pencil Cannot hold their milk bottle Only rolls over in bed Cannot undress themselves yet Learning with their older sibling Watching videos on the phone with their friends</p>	<p>Interaction and communication with parents or caregivers</p>	<p>Responsive parenting</p>
	<p>Safety and comfort in the environment</p>	<p>Ensuring safety and security</p>
	<p>Safety and comfort from physical punishment</p>	
	<p>Cognitive development stimulation</p>	
	<p>Speech and language development stimulation</p>	
	<p>Motor development stimulation</p>	<p>Opportunities for early learning</p>
	<p>Social and independence development stimulation</p>	

Theme 1. Fulfillment of children's health requirements

The process of fulfilling a child's health needs, as provided by parents, should ideally begin during pregnancy. The efforts made by parents in conducting antenatal care examinations during

pregnancy, as well as their efforts in monitoring the health and development of the child, are discussed in the following sub-theme.

Sub-theme 1.1. Pregnancy check-ups

Based on the data obtained from participant interviews, the experiences of parents were quite

diverse. Many parents utilized Posyandu (integrated health post) for pregnancy check-ups, while some participants opted for check-ups at Puskesmas (community health centers), hospitals, or with specialized obstetricians.

"...when I was pregnant, I always visited the integrated healthcare center every month..." (P1)

"During my pregnancy, I visited the integrated healthcare center, but I also visited a gynecologist, when I was pregnant my stomach was bigger than most pregnant women, ma'am and after being checked via ultrasound it turned out I was pregnant with twins..." (P2)

"...when I was pregnant, I was referred for an ultrasound at the hospital..." (P4)

"...when it is past the integrated healthcare center schedule, I check for pregnancy at the public health center, and I am examined by the midwife (village midwife at the integrated healthcare center)". (P8)

Sub-theme 1.2. Monitoring growth and immunization

In monitoring growth and development, as well as providing immunizations, parents make efforts by taking their children to integrated health services.

"...I know my child is stunted because I often visit the integrated healthcare center...his immunization is also complete, I always take my child to visit the integrated healthcare center, if there is information about the integrated healthcare center schedule at the mosque, I immediately rush there..." (P14)

"...the immunization is not complete because I often come late to the integrated healthcare center, usually I go to the integrated healthcare center after my first child comes home from school and the integrated healthcare center has finished" (P16)

Sub-theme 1.3. Care during illness

When a child was sick, parents or caregivers took various measures to ensure the child's recovery and return to normal activities. Based on the interviews, some parents utilized healthcare facilities appropriately, while several participants shared diverse experiences in managing a sick child.

"When his body feels warm, I give him fever-reducing medicine that I bought at the pharmacy in front of the road..." (P3)

"...when my children are sick, I always take them to the nurse's office, they are suitable for treatment there, especially if they are given an injection straight away, my children immediately recover..." (P5)

"...my child doesn't have a health insurance card, if I'm sick I'll take him to the doctor or..." (P10)

Theme 2. Provision of sufficient nutrition

The provision of appropriate nutrition to a child can also begin during pregnancy. During this time, the mother's food consumption influences the growth of the fetus in the womb. The history of exclusive breastfeeding and complementary feeding is essential for adequately meeting the child's nutritional needs. Additionally, this is supported by

diverse food choices and the provision of age-appropriate meals for the child.

Sub-theme 2.1. Maternal nutrition during pregnancy

During pregnancy, mothers have different experiences and behaviors related to the nutritional intake provided to the fetus in the womb. Among them, some mothers experience emesis, which affects the nutritional intake given to the fetus.

"...because I'm pregnant with twins, I force myself to keep eating, usually I eat rice with side dishes of fish and kangkong vegetables plus drink tea because I don't like milk..." (P2)

"...during pregnancy, I had a habit of eating raw rice then I bit it until it was smooth, if I ate rice I would feel nauseous, and I also liked eating corn soup every afternoon..." (P14)

"...during pregnancy, I couldn't eat or drink at all, I didn't even like water" (P16)

"That's right ma'am, until she was treated at the Community Health Center because she didn't want to eat..." (P16)

Sub-theme 2.2. History of breastfeeding and complementary feeding

Exclusive breastfeeding for the first six months is the ideal nutrition that mothers can provide to support adequate growth, and complementary feeding starting at six months can supplement the nutrition for toddlers. From the interviews conducted with parents, it was found that some parents provided exclusive breastfeeding followed by complementary feeding, while others combined breastfeeding with formula milk supplementation.

"...until now I still give breast milk, but when my child was still a baby because I had little breast milk, I helped him by adding formula milk and after the age of 3 months he was given soft food by his grandmother..." (P1)

"...until the age of 2 years my child was given breast milk because I couldn't afford formulated cow milk..." (P14)

"I give my baby breast milk, if boys have the habit of drinking more breast milk than girls, after 6 months of age I give them bananas and instant porridge so that my child is full" (P16)

Sub-theme 2.3. Nutritional provision for the child

The provision of appropriate and adequate nutrition to a child is one form of parenting that should be provided by parents. By offering suitable and nutritionally rich food, parents can support their child's growth, especially in the case of stunted toddlers, and help maintain the child's immune system to prevent various diseases. The nutrition provided by parents should be based on the recommended daily intake of nutrients, including carbohydrates, proteins, fats, fiber, and vitamins. Based on the interview results with parent participants, there was a variety of foods given to children.

"Usually eat together with us 3 times a day, my child likes to eat rice, fish and kangkong vegetables and doesn't like to eat fruit, usually grandma also buys snacks and milk boxes at Alfamart" (P9)

"...in the morning, I usually eat yellow rice, in the afternoon and evening I fry tofu or tempeh with spices, my children really like tofu and tempeh compared to fish and vegetables..." (P13)

"Ica children usually eat porridge and eggs, I only give them sugar water because I can't afford to buy milk let alone buy fruit, Ica children get biscuits from the public health center and I usually add water to them to give to Ica children" (P19)

Theme 3. Responsive parenting

The parenting provided by parents or caregivers needs to be rooted in love and affection for the child, with parents or caregivers striving to fulfill the child's needs. This can be achieved through quality interactions and responding appropriately to what the child requires.

The results of interviews regarding responsive parenting through quality interactions and communication can be observed in quotes obtained from some parent or caregiver participants, such as:

"...the mother and father work in other areas, every day the ambo child is with my aunt, when I go away, the ambo child will be looked after by my grandmother or husband, when I sleep my child sleeps with the ambo and his grandmother, his daily life is with me, bathing, eating, playing, ambo is more silent when teased by his cousin..." (P12)

"...because my wife works every day, my child is with me or with his grandmother and grandfather when I'm working, his grandmother usually bathes him, feeds him and drinks milk, so he is closer to his grandmother and grandfather than his father and mother..." (P13)

"...when his father comes home from work, he usually plays together and is often invited to ride his motorbike around the complex, the child is very happy, his father usually also buys him snacks and toys when he rides his motorbike together..." (P18)

Theme 4. Ensuring safety and security

Children are highly vulnerable to unforeseen dangers in their home environment. To prevent hazards that may lead to physical injuries, parents need to protect the safety and well-being of their children. Additionally, parents or caregivers should avoid or refrain from using physical punishment, allowing children to be in the company of their parents or caregivers safely and comfortably.

The results of interviews related to the protection of safety and security for children can be observed through various quotes from parent participants, as follows:

"When twins are disobedient and naughty, I usually give them a little pinch on the hand..." (P2)

"...I tidy up the pile of scrap iron next to the house, otherwise Ica's children often play in front, I'm worried they will get pricked or hit by the pile of scrap..." (P5)

"...if you don't reprimand him in a loud voice, the gallon water container in the kitchen is always opened, I'm afraid I'll slip..." (P10)

Theme 5. Offering early learning opportunities

To provide learning opportunities from an early age, the role of parents is crucial in offering stimulation for cognitive, motor, speech, and socio-emotional development. Stimulation can help optimize children's development.

The efforts made by parent participants in providing learning stimulation to their children can be seen in the following quotes:

"...my child has been weak since he was little, even though he is a boy, he is still learning to walk, ma'am, if he is told to walk backward, he will definitely fall, I don't have time to train him because I have to take care of my other children..." (P4)

"I can't stop thinking about my son, ma'am, he doesn't seem to have the energy, he's very weak, even though his older brother is not like that when his older brother looks at his cellphone, usually Ramu will look, and his older brother will teach his younger sibling..." (P18)

"My child can't hold a pencil, he can't even hold his milk pacifier, ma'am, even though I've taught him to hold his milk pacifier, if I'm in the kitchen Ica's child won't look for it, and just rolls around on his bed..." (P19)

Discussion

This research explored caregiver practices for optimizing toddlers' healthy growth and development. Children aged 12 to 36 months commonly exhibit very rapid growth, but they also become highly active in exploring their surroundings during this stage. At this age, children demonstrate keen observation skills and extraordinary curiosity. When children experience normal growth and development with proper support from their surrounding environment, their learning motivation tends to peak, surpassing that of other age groups [15, 16].

Research findings derived from interviews with parents using the nurturing care approach highlighted growth issues in toddlers attributed to insufficient prenatal care. Despite efforts for standard prenatal checks, some parents struggled to meet the fetus's nutritional needs. The study also noted insufficient exclusive breastfeeding and the premature introduction of complementary foods before six months. While parents may believe they provide proper nutrition by consistently offering staple foods, like rice, economic constraints hinder their ability to ensure adequate nutrition for their children.

Inadequate nutrition during pregnancy, particularly among mothers with chronic energy deficiency (CED) who neglect nutritional adequacy and milk consumption, is linked to the occurrence of stunting in their children [17, 18]. Another study conducted at the Ambon Health Center by Asmin & Abdullah [19]

indicates that low exclusive breastfeeding and incomplete basic immunization contribute to the incidence of stunting in children aged 9 to 24 months. This corresponds with findings by Hadi *et al.* [20], revealing that toddlers experiencing stunting are more common among those who are not exclusively breastfed.

The development of socialization and independence in children involves their ability to carry out daily activities independently, such as eating alone or tidying up toys after playing. Additionally, children should be capable of engaging in social activities, including managing themselves when separated from their mother or caregiver and participating in socializing and playing with other children or family members.

Gross motor development pertains to a child's ability to perform movements and postures that engage large muscles, such as sitting, standing, walking without staggering, walking backward, and climbing stairs independently [1].

Research by Saleem *et al.* [21] on predictors of developmental delays in stunted toddlers highlights that malnutrition in these toddlers can impact the brain's receptiveness to information, leading to decreased interest in their surrounding environment. This aligns with research by Zakiyya *et al.* [22] on the analysis of stunting events in toddler development, indicating a correlation between stunting and delays in socialization, fine and gross motor skills, as well as speech and language development. Children facing stunting issues with nutritional deficiencies are more susceptible to infections, resulting in increased vulnerability to illnesses.

A study by Cheng *et al.* [23] in Hunan province, China, explored the impact of supplementing folic acid and iron with multi-micronutrients during pregnancy on toddler development, revealing differences in motor development between mothers who consumed folic acid and iron versus those who took multi-micronutrient supplements. Malnourished children undergo structural nerve changes that impact impulse conduction, while stunting disrupts motor coordination due to hindered maturation of triceps muscle tissue. Stimuli can enhance dendritic cell numbers and improve motor skills [24].

The collaboration of parents, family members, health centers, government initiatives, community organizations, and professionals in the health, education, and social fields is essential for comprehensive support in optimizing the growth and development of stunted children from an early age.

This study has limitations, including its focus on a specific geographic area, which may not capture the experiences of caregivers and children in other regions. Future research should incorporate a larger and more diverse sample to enhance generalizability. Moreover, collaboration among healthcare providers, community organizations, and policymakers is crucial for creating comprehensive strategies to

address stunting and promote healthy child development.

Conclusion

Parents play a crucial role in supporting the growth and development of stunted toddlers through effective parenting practices, which involve addressing health needs, ensuring proper nutrition, providing responsive caregiving, offering safety, and delivering early stimulation.

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References

- 1- Kementerian Kesehatan Republik Indonesia. Handbook of the results of the study of the nutritional status of Indonesia (SSGI) at the national, provincial, district / city levels in 2021. Jakarta: Kementerian Kesehatan RI; 2021. [Indonesian]
- 2- Pradana Putri A, Rong JR. Parenting functioning in stunting management: A concept analysis. *J Public Health Res.* 2021;10(2):2160.
- 3- Hati FS, Pratiwi AM. The effect of education giving on the parent's behavior about growth stimulation in children with stunting. *NurseLine J.* 2019;4(1):12-20.
- 4- Black MM, Behrman JR, Daelmans B, Prado EL, Richter L, Tomlinson M, et al. The principles of Nurturing Care promote human capital and mitigate adversities from preconception through adolescence. *BMJ Glob Health.* 2021;6(4):e004436.
- 5- Nurdin SSI, Katili DNO, Ahmad ZF. Maternal, parenting, and complementary feeding factors on the incidence of stunting in Gorontalo district. *Jurnal Riset Kebidanan Indonesia.* 2019;3(2):74-81. [Indonesian]
- 6- Kasmira K, Tasrif N, Darlis Santi T. Stunting in toddlers (6-60 months): Parenting pattern, mother's education level, infectious diseases, and breastfeeding. *Jurnal Kesehatan Masyarakat.* 2023;18(4):564-70.
- 7- Dewi RK, Sumarni S. Parenting style and family empowerment for children's growth and development: A systematic review. *J Public Health Afr.* 2023;14(s2):2582.
- 8- Ahun MN, Aboud F, Wamboldt C, Yousafzai AK. Implementation of UNICEF and WHO's care for child development package: Lessons from a global review and key informant interviews. *Front Public Health.* 2023;11:1140843.
- 9- Unicef. Improving child nutrition: The achievable

- imperative for global progress. New York: UNICEF; 2013.
- 10- Pierce H. Nurturing care for early childhood development: Path to improving child outcomes in Africa. *Popul Res Policy Rev.* 2021;40(2):285-307.
- 11- Russell AL, Hentschel E, Fulcher I, Ravà MS, Abdulkarim G, Abdalla O, et al. Caregiver parenting practices, dietary diversity knowledge, and association with early childhood development outcomes among children aged 18-29 months in Zanzibar, Tanzania: A cross-sectional survey. *BMC Public Health.* 2022;22(1):762.
- 12- Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *Int J Qual Health Care.* 2007;19(6):349-57.
- 13- Creswell JW. *Research design: Qualitative, quantitative, and mixed methods approaches.* Los Angeles: Sage Publications; 2017.
- 14- Creswell JW. *Qualitative inquiry and research design: Choosing among five traditions.* Los Angeles: Sage Publications; 1998.
- 15- Rodríguez AOR, Riaño MA, García PAG, Marín CEM. Emotional characterization of children through a learning environment using learning analytics and AR-Sandbox. *J Ambient Intell Humaniz Comput.* 2020;11(11):5353-67.
- 16- Ernst J, Burcak F. Young children's contributions to sustainability: The influence of nature play on curiosity, executive function skills, creative thinking, and resilience. *Sustainability.* 2019;11(15):4212.
- 17- Owino V, Ahmed T, Freemark M, Kelly P, Loy A, Manary M, et al. Environmental enteric dysfunction and growth failure/stunting in global child health. *Pediatrics.* 2016;138(6):e20160641.
- 18- Tang MN, Adolphe S, Rogers SR, Frank DA. Failure to thrive or growth faltering: Medical, developmental/behavioral, nutritional, and social dimensions. *Pediatr Rev.* 2021;42(11):590-603.
- 19- Asmin E, Abdullah MR. Exclusive breastfeeding and immunisation are associated with the incidence of stunting in children aged 9-24 months at Rumah Tiga health centre, Ambon. *Poltekita: Jurnal Ilmu Kesehatan.* 2021;15(2):196-201. [Indonesian]
- 20- Hadi Z, Anwary AZ, Asrinawaty A. The incidence of stunting among children under five years old in terms of posyandu visits and exclusive breastfeeding behaviour. *Jurnal Akademika Baiturrahim Jambi.* 2022;11(1):1-13. [Indonesian]
- 21- Saleem J, Zakar R, Bukhari GM, Fatima A, Fischer F. Developmental delay and its predictors among children under five years of age with uncomplicated severe acute malnutrition: A cross-sectional study in rural Pakistan. *BMC Public Health.* 2021;21(1):1397.
- 22- Zakiyya A, Widyarningsih T, Sulistyawati R, Pangestu JF. Analysis of the incidence of stunting on the development of children aged 6-24 months. *Jurnal Sains Kebidanan.* 2021;3(1):6-16. [Indonesian]
- 23- Cheng G, Sha T, Gao X, Wu X, Tian Q, Yang F, et al. Effects of maternal prenatal multi-micronutrient supplementation on growth and development until 3 years of age. *Int J Environ Res Public Health.* 2019;16(15):2744.
- 24- Azijah I, Adawiyah AR. *Child growth and development: Infants, toddlers and preschool age.* West Java: Penerbit Lindan Bestari; 2020. [Indonesian]