

Disadvantaged Family's Quality of Life and Psychosocial Environment on Growth and Development of Infants

Zulfa Febriani^{1*}, Melok Roro Kinanthi²

^{1,2} Fakultas Psikologi Universitas YARSI, Jakarta Pusat, Indonesia

*e-mail: zulfa.febriani@yarsi.ac.id

Abstract

Stunting, a condition characterized by poor growth and development, has become a significant public health concern in Indonesia. Therefore, the current study adopts a correlational design and aims to explore the relationship between family quality of life, psychosocial environment, and the growth and development of under-two-year-old infants from low socioeconomic status. To conduct the study, 720 mothers were selected through cluster sampling in Pandeglang Regency. Family quality of life and psychosocial environment were measured using the BC-FQoL and HOME-SF tools, respectively. Nutritional status was determined based on height-for-age (H/A) and weight-for-age (W/A) to evaluate growth and development. The results showed that there was no significant relationship between family quality of life, psychosocial environment, and nutritional status. Weight-for-age had a weak but significant relationship with emotional well-being, family interaction, and emotional psychosocial stimulation. Height-for-age was only related to emotional well-being, indicating the need to consider the psychosocial situation and family involvement in caring for infants.

Keywords: family quality of life, psychosocial environment, caregiving, stunting, infant growth and development

Abstrak

Kejadian *stunting* menjadi perhatian di Indonesia. Penelitian ini bertujuan untuk mengetahui hubungan kualitas hidup keluarga dan lingkungan psikososial keluarga pada tumbuh kembang bayi dua tahun (baduta) dari kelas sosial ekonomi rendah. Tipe penelitian ini adalah korelasional. Partisipan berjumlah 720 ibu dari anak baduta yang diambil secara *cluster sampling* di kabupaten Pandeglang. Kualitas hidup keluarga dan lingkungan psikososial diukur dengan BC-FQoL dan HOME-SF, tumbuh kembang ditentukan dari status gizi berdasarkan tinggi badan/ usia (T/U) dan berat badan/ usia (B/U). Hasil menunjukkan secara umum tidak terdapat hubungan signifikan antara kualitas hidup keluarga, lingkungan psikososial dan status gizi. Namun, status gizi B/U memiliki hubungan signifikan lemah dengan kesejahteraan emosional, interaksi keluarga dan stimulasi psikososial secara emosional. Status gizi T/U hanya berkaitan dengan kesejahteraan emosional. Hal ini menunjukkan perlunya memperhatikan keadaan psikososial dan keterlibatan keluarga dalam pengasuhan baduta.

Kata Kunci: kualitas hidup keluarga, lingkungan psikososial, pengasuhan, *stunting*, tumbuh kembang baduta

Introduction

The optimal developmental aspects of children are crucial for the future generation of families and nations. The first 1000 days of life represent a critical period that lays the foundation for their growth and development closely tied to fulfilling fundamental physical and emotional needs (Husnah, 2017; Mubasyiroh & Aya, 2018; Puspita et al., 2021). However, the rate of stunting among children aged 0-5 years still exceeds the minimum standards set by the World Health

Organization (WHO), with a rate of 30.8% in 2018. Although this number has decreased since 2013, it remains above the 20% limit and is one of the 5 priority issues in the health development of Indonesia (Biro Komunikasi dan Pelayanan Masyarakat, 2019). This condition is often related to regional poverty, which is commonly found in developing and low-income countries (Prendergast & Humphrey, 2014; Richard et al., 2012).

Stunting during the first 1000 days of life, characterized by the inability to achieve an

optimal nutritional state, leads to lasting health consequences, reduced quality of life, and limited individual capabilities (Vásquez-Garibay et al., 2015). It also impairs physical development, as well as cognitive and neural functions, with irreversible consequences (de Onis & Branca, 2016). The short-term impacts include increased morbidity and mortality rates, impaired cognitive, motor, and language development, with increased healthcare costs. Meanwhile, the long-term impacts include shorter height in adulthood, increased risk of chronic diseases, decreased reproductive health, reduced learning capacity, and suboptimal performance in school or work (Pusat Data dan Informasi Kemenkes RI, 2018). The condition has the potential to be transmitted to the succeeding generation (Walker et al., 2015).

The contribution of poverty to stunting is related to malnutrition, lack of exclusive breastfeeding for 6 months, access to adequate sanitation and basic health services, as well as living in rural or remote areas (Beal et al., 2018). However, some families can cope with these environmental limitations and maintain the nutritional status of their children. Studies showed that intensive, maternal care in the nuclear family was the main protective factor against stunting in rural communities. In urban areas, unstable employment, lack of extended family support, low participation in childcare programs, high burden with several children leading to less attention, and migration from rural to urban areas are risk factors to be considered (Reyes et al., 2004).

Reyes et al. (2004) and Vásquez-Garibay et al. (2015) showed the family dynamics in meeting the nutrition and growth needs of children. Furthermore, poor caregiver quality of life can affect the possibility of meeting the nutritional needs of children (Polack et al., 2018). Quality of life for a family is a constantly evolving and subjectively experienced sense of overall well-being, where the individual needs of members are intricately interrelated. The evaluation is produced from the condition and values of the

children and parents, as well as the expectations of the family. Other factors to consider are coherence feeling, ability to adapt and make decisions, and support available or received by the family from the smallest environment to the community or national system (Zuna et al., 2010). Furthermore, family quality of life is a multidimensional construct that includes physical-material dimensions, interaction, parenting, emotional well-being, and support for disabilities (Summers et al., 2005).

Regarding the nutritional status of children, poverty and family quality of life can be seen in the physical-material dimension. Summers et al. (2005) explained that in the physical-material dimension, the variable was related to the sufficiency of the needs for healthcare, ease of transportation access, cost of living, and environmental safety. Halimatunnisa et al. (2021) also found that the dominant sociodemographic factors (>40%) in the condition of stunted children were low economics and parental education. Meanwhile, low economics and education were also reported in families with stunted children by Hanifah et al. (2018), Anjani (2022), Mulyaningsih et al. (2021), Titaley et al. (2019), Yunitasari et al. (2021). The variables were related to limited access to adequate health services, low food security, good exclusive breastfeeding and complementary feeding practices, as well as less supportive environmental structure such as the provision of water, sanitation, and hygiene facilities which can make children vulnerable to infection and disrupt nutrient absorption.

Besides the physical-material dimension of family quality of life, interaction, parenting, and emotional well-being can also be related to stunting in children. The dimension of interaction includes how the family enjoys time together, communicates openly, solves problems, and shows support and affection. Meanwhile, The realm of parenting encompasses fulfilling the requirements of children, which range from acquiring independence, engaging in social

interactions, adapting to the environment, and participating in school activities. Emotional well-being includes the perception of the resources needed to overcome challenges (Summers et al., 2005). Studies showed that the emotional state of mothers, specifically depression, was associated with stunting in Bangladeshi students. Emotional problems during pregnancy can be a risk for a low birth weight infants or reduced attachment of mothers to children. Childhood stunting has been found to be associated with emotional difficulties in mothers. This correlation may be attributable to the diminished attention devoted to the care of children (Black et al., Cooper et al. in Walker et al., 2011). This was also explained by Fawzi et al. (2019) in low- and middle-income countries of South Asia, sub-Saharan Africa, Central Asia, East Asia, Latin America, and the Middle East, where about 7.2 million cases were attributed to psychosocial factors, and maternal depression was the main risk factor in 3.2 million cases. Therefore, almost all cases are related to the poor emotional condition of mothers, resulting in inadequate attention and optimal care. Other psychosocial factors include low maternal education and intimate partner violence. Depression in mothers accompanies problems of intimate partner violence and can lead to a lack of stimulation in children, resulting in suboptimal cognitive development.

Vásquez-Garibay et al. (2015) also indicated that family dysfunction, involving the deviation from normative structure and function, could play a role in all forms of child malnutrition. Furthermore, the concept is assessed based on dynamics between couples, formation of identity, communication, emotional expression, solidarity, authority structure, conflict and aggressiveness management, disciplinary methods applied, value system, and social-cultural isolation and integration. Psychosocial factors related to parenting, family interaction, and emotional well-being are not the main focus of the study on children malnutrition. Yunitasari et al. (2021) stated that parenting is significantly

correlated with preventing children malnutrition in Madura. The concept relates to how parents attend to the basic needs of children, such as eating, healthcare, and affection. Since the majority of participants live with extended families, there is also the involvement of grandparents in parenting. The previous results were limited to the parenting context, while this study further explored family quality of life from the perspective of interaction and emotional well-being.

UNICEF stated that the most important aspects of the growth and development of children were nutrition, health, and psychosocial stimulation. Therefore, family parenting factors related to providing nutrition for quality of psychosocial stimulation is very important (UNICEF in Warsito et al., 2012; Daniel et al., 2017). Stimulation comprises a range of activities intended to trigger the cognitive faculties of the left and right brain while engaging all sensory modalities and cognitive abilities that facilitate critical thinking and effective communication (Ministry of National Education in Warsito et al., 2012). Psychosocial stimulation can be fostered through various means, such as appropriate play equipment, as well as through social interactions between children and their peers (Worku et al., 2018). Furthermore, it is imperative to acknowledge the significance of the interaction between the primary caregiver and children in this context. This may involve verbal exchanges, storytelling, displays of affection through hugs and caresses, creating a safe and engaging environment for children, and promoting self-sufficiency (Engel et al. in Carvalhaes & Benicio, 2006; Putri & Rong, 2021).

Children who received adequate nutrition and appropriate psychosocial stimulation exhibited superior performance. The greater the frequency and diversity of stimulation variations received, the more robust and sophisticated the synaptic connections formed in the left and right hemispheres of the brain (Mayza in Warsito et al., 2012). The provision

of nutritional supplements and psychosocial stimulation has been shown to enhance the growth as well as cognitive and motor development of infants. Meanwhile, WHO recommends the implementation of nutritional interventions alongside psychosocial stimulation and family engagement for children affected by malnutrition (Kerac et al., 2010). The family also plays a significant role in the prevention and treatment of growth failure resulting from socioeconomic constraints, which is closely linked to the quality of life experienced. Therefore, it is suspected that family quality of life and psychosocial environment positively relate to infants with low socioeconomic status growth and development.

There is a paucity of findings exploring the relationship between the nutritional status of infants and family quality of life, as well as psychosocial environment, particularly among those aged 0-24 months. Some existing results are related to the quality of parenting and its impact on social-emotional development in children aged 2-5 years (Dewanggi et al., 2015) and the role in the cognitive development of children aged 2-3 years (Aritonang et al., 2020). Warsito et al. (2012) conducted a comparative analysis, but it solely established a correlation between nutritional status, psychosocial stimulation, and cognitive development in children aged 3-5 years in Bogor. The considered studies did not involve infants between the ages of 0-2 years but focused on this particular range as it was within the first 1000 days of life, which was widely recognized as a critical period for preventing malnutrition.

Moreover, the aspects related to growth and development include the dynamics of family quality of life as well as psychosocial stimulation. These variables are important in the growth and development of the early stages of life. The dynamics of families with low socioeconomic status are also a concern at the Faculty of Psychology, YARSI University. In one of its missions, the Faculty holds and develops *tridharma*, which

emphasizes health psychology, including physical, mental, social, and spiritual well-being. Therefore, this study investigates the relationship between family quality of life and psychosocial environment on the growth and development of infants from low socioeconomic status. The results are expected to support prevention and intervention programs for the nutritional status of children by maximizing family quality of life and psychosocial environment through caregivers involved in the first 1000 days of the life of children.

Methods

This non-experimental correlational study was conducted on 720 mothers of infants from low socioeconomic classes in Pandeglang Regency, Banten Province. The population of productive-age women was 374,280, according to the Statistics Indonesia Pandeglang Regency, 2018. Meanwhile, Pandeglang was selected because the government prioritized tackling stunting (Tim Nasional Percepatan Penanggulangan Kemiskinan, 2017), and the sample was obtained using a cluster sampling technique. The participant data were collected from 10 village heads, namely Bayumundu, Kadugadung, Kadumaneuh, Koncang, Keroncong, Langensari, Pakuluran, Pasirkarag, Tegalongok, and Pasirdurung. The data collection team was composed of ten members, with each group comprising 3-4 individuals. The members are tasked with the responsibility of conducting semi-structured interviews and observations of target participants.

Family quality of life was measured using the BC-FQoL questionnaire developed by Summers et al. (2005). The scale consisted of statements with answer options in a range of four scores from very dissatisfied (1) to very satisfied (4), which measure five dimensions, namely family interaction (FI) ("My family enjoys spending time together"), parenting (P) ("Family members help children learn to be independent"), emotional well-being (EW) ("My family provides support

during stressful situations"), and physical well-being (PW) ("My family can access transportation to necessary locations"). The last dimension is related to disability support and was not used because of the inability to focus on families with disabilities. Therefore, the total number of items used in the BC-FQoL scale was 21, as supported by Zuna et al. (2009, 2010).

The BC-FQoL questionnaire had been adopted in various Western and Eastern countries with adequate psychometric properties, such as in France with Cronbach alpha values ranging from .7 - .8 for each dimension, and RMSEA \geq .05, SRMR \geq .03, TLI \geq .85, CFI \geq .88 for first-order and higher-order models (Rivard et al., 2017). In Taiwan, SRMR = .053, RMSEA = .089, CFI = .907, and TLI = .894 (Chiu et al., 2017a), while in China, the Cronbach alpha values for test-retest $>$.90 and convergent validity with the FQoL scale ($r = .608$, $p < .01$) (Chiu et al., 2017b). In Arab, RMSEA = .07, SRMR = .06, CFI = .93, and TLI = .92, and Cronbach alpha values ranged from .85 - .94 for each dimension (Alnahdi et al., 2021). In Turkey, RMSEA = .07, SRMR = .07, GFI = .86, AGFI = .83, NFI = .95, NNFI = .96, CFI = .96, IFI = .96 and RFI = .94, and Cronbach alpha values for each dimension $>$.7 (Meral et al., 2013), while in Singapore, RMSEA = .06, SRMR = .06, CFI = .92 and TLI = .91, and Cronbach alpha values ranged from .84 - .93 for each dimension (Waschl et al., 2019). In Indonesia, the RMSEA = .031 (BS Bootstrap 95%; H_0 : RMSEA $<$.05; $p = 1.000$) and reliability values for the four factors excluding the disability factor $>$.7 (Risnawaty et al., 2020).

Psychosocial environment was measured using the HOME-SF scale, which originated from the Home Observation for Measurement of the Environment Inventory (Bradley et al., 2001). The HOME Inventory had been used for over 50 years in more than 50 countries to measure various aspects of home experiences to play a role in children development. It determined the quantity and quality of stimulation, support, and structure in the

home environment for the well-being of children. Furthermore, it was developed for four age groups, namely toddler, preschool, school-aged, and adolescent, and was administered through a semi-structured interview (Bradley, 2015). As a type of indicator, it could be used in the developmental study and program evaluation. HOME-SF assessed the emotional support (HE-E) and cognitive stimulation (HE-C) of children from their home and family environment. The variables used for infants consisted of the verbal and emotional responsiveness of mothers, the use of prohibitions and punishments, the arrangement of the physical environment, the provision of appropriate toys, the involvement of mothers with children, and daily stimulation variety. A total of 10 items were asked of mothers ("Do mothers read storybooks to children at least 3 times a week?"), and 8 items were observed ("Mothers spontaneously talk and responds to children") during the semi-structured interview. A score of 1 was given to each question that indicates the intended psychosocial stimulation on the scale, resulting in a total score of 18 (Bradley et al., 2001).

The growth and development of infants can be assessed through nutritional status, which was measured anthropometrically using an infant scale and a wooden measuring board that follows the WHO standards. It was evaluated based on weight-for-age (W/A) and height/length-for-age (H/A) indicators recorded on the questionnaire identity sheet, which was then converted into WHO standard infants' growth chart to obtain the nutritional status category (Kementerian PPN/Bapenas, 2018).

The data were processed using the Spearman correlation statistical technique because the type was the ratio and ordinal on the BC-FQoL and HOME-SF scales. Meanwhile, the nutritional status data were categorical, where the data processing and analysis were performed using JASP 0.12.2.0 software.

Results and Discussion

Description of Family Quality of Life, Family Psychosocial Environment, as well as Infants' Growth and Development

This study involved the participation of 795 mothers of infants in Pandeglang. However, the data of only 720 mothers could be analyzed since 75 failed to complete the main study data, rendering their information unusable for analysis. The participants' description outlined in Table 1 showed that the average age was 29.06 years, and a majority of mothers had received only an Elementary School education. Meanwhile, most fathers had an Elementary School education and were employed, meaning the daily living expenses were supported by an average weight and length of infants of 8.9 kg and 69.4 cm.

As shown in Table 2, the BC-FQoL of infants in Pandeglang was quite good, indicated by an average score of >3 on a scale of 1-4, except for physical well-being (PW). The quality of psychosocial environment (HE) was also quite good, indicated by an average score of 13.99 on a scale of 0-18, with each component having an average score >6 on a scale of 0-9. Based on weight and height, the majority of infants were in the normal category (N=534) and (N=427). Therefore, mothers had a relatively good family quality of life and psychosocial environment, and infants had good growth and development.

The Relationship between Family Quality of Life and Psychosocial Environment with Infants' Growth and Development Status

Table 4 showed no significant relationship between family quality of life and the nutritional status of infants based on height-for-age ($r=.05$, $p=.139$) and weight-for-age ($r=.06$, $p=.102$). Psychosocial environment also had no significant relationship based on height-for-age ($r=.003$, $p=.939$) and weight-for-age ($r=.067$, $p=.07$).

Table 1
Participants' Description

Variable	N	Percentage
Mothers' Age	627	
(Mean=29.06)	93	
Missing value		
Mothers' Education		
Not in school	14	1.9%
Elementary School	308	42.7%
Junior High School	219	30.4%
Senior High School	149	20.7%
Bachelor's Degree	29	4%
Missing value	1	.3%
Mothers' Job		
Not working	634	87.9%
Working	78	10.8%
Missing value	8	1.3%
Fathers' Education		
Not in school	4	.5%
Elementary School	304	42.2%
Junior High School	207	28.7%
Senior High School	167	23.2%
Bachelor's Degree	32	4.4%
Missing value	6	1%
Fathers' Job		
Not working	39	5.4%
Working	646	89.6%
Missing value	35	5%
Family Income		
<Regional Minimum Wage	456	63.2%
> Regional Minimum Wage	162	14.3%
Missing value	102	
Infants' Age		
0-6 months	192	26.7%
6-12 months	177	24.6%
12-18 months	164	22.8%
18-24 months	141	19.6%
Missing value	46	6.3%
Infants' Gender		
Male	371	51.5%
Female	349	48.5%
Infants' weight (mean=8.9 kg)	709	98.47%
Missing value	11	1.53%
Infants' height (69.4 cm)	717	99.58%
Missing value	3	.42%

Table 2
Description of Family Quality of Life, Psychosocial Environment, as well as Infants' Growth and Development

Variable	N	Min	Max	Mean	SD
BC-FQoL	720	1.95	4.00	3.05	.31
Family Interaction (FI)	720	2.00	4.00	3.11	.35
Parenting (P)	720	2.00	4.00	3.07	.33
Emotional well-being (EW)	720	1.75	4.00	3.00	.36
Physical well-being (PW)	720	2.00	4.00	2.99	.36
HE	720	2.00	18.00	13.99	.44
Cognitive support (HE-C)	720	1.00	9.00	6.27	1.67
Emotional Support (HE-E)	720	.00	9.00	7.73	1.39

Table 3
Nutritional Status

Variable	N
Nutritional status W/A	
Poor	34 (4.72%)
Low	117 (16.25%)
Normal	534 (74.17%)
Overweight	33 (4.59%)
Missing value	2 (.37%)
Nutritional status H/A	
Very Short	84 (11.67%)
Short	192 (26.67%)
Normal	427 (59.30%)
Tall	17 (2.36%)

However, nutritional status based on weight-for-age had a significant positive correlation with family interaction-FI ($r=.079$, $p<.05$), emotional well-being-EW ($r=.079$, $p<.05$), and support stimulation environment-HE-E ($r=.08$, $p<.05$). Based on height-for-age, the variable only had a significant correlation with family emotional well-being-EW ($r=.091$, $p<.05$).

This study investigated the relationship between family quality of life and psychosocial environment with the growth and development of low socioeconomic status. The results showed that the variables did not have a significant relationship with

growth and development based on nutritional status measured by weight or height. The growth and development based on weight had a weak but significant positive correlation with family interaction, emotional well-being, and stimulation of emotional support. Meanwhile, the variable had a weak but significant positive correlation with the quality of emotional well-being in the family based on height.

This was consistent with the findings that intensive and maternal care was the main protective factor against stunting in rural communities (Reyes et al., 2004). Most mothers did not work or entirely took care of their children directly in the low socioeconomic class. The quality of life and family environment did not affect growth and development, and most infants were categorized as having normal nutritional status. Furthermore, Yunitasari et al. (2021) showed that mothers did not work and only attended primary or secondary school. Susanto et al. (2021) conducted a study in rural Jember and reported that overall family quality of life was significantly correlated with infants' nutritional status, where the prevalence of stunting was less than 20%. Therefore, low socioeconomic status was not the main factor impacting stunting.

Socioeconomic status concerning infant stunting was linked to the family ability to fulfill the nutrition, immunization, sanitation, and basic needs, specifically the knowledge of mothers in meeting the needs of infants (Makatita & Djuwita, 2020; Surani & Susilowati, 2020; Krisnana et al., 2020; Bustami & Ampera, 2020; Yani et al., 2023; Hanifah et al., 2018; Titaley et al., 2019; Anjani, 2022; Halimatunnisa et al., 2021). This ability was mentioned in the dimension of family quality of life, namely physical well-being, which referred to the sufficiency of the family in healthcare, transportation access, living costs, and environmental safety (Summers et al., 2005).

This study showed that family emotional state and interaction have little association with infant growth and development.

Table 4

The Relationship between Family Quality of Life and Psychosocial Environment with Infants' Growth and Development Status

Variable	BC-FQoL	FI	P	EW	PW	HE-C	HE-E	HE	Nutritional status H/A	Nutritional status W/A
1. BC-FQoL	Spearman's rho	—								
	p-value	—								
2. FI	Spearman's rho	.731 ***	—							
	p-value	< .001	—							
3. P	Spearman's rho	.780 ***	.605 ***	—						
	p-value	< .001	< .001	—						
4. EW	Spearman's rho	.810 ***	.553 ***	.641 ***	—					
	p-value	< .001	< .001	< .001	—					
5. PW	Spearman's rho	.776 ***	.464 ***	.544 ***	.528 ***	—				
	p-value	< .001	< .001	< .001	< .001	—				
6. HE_C	Spearman's rho	.139 ***	.133 ***	.096 **	.060	.128 ***	—			
	p-value	< .001	< .001	.010	.110	< .001	—			
7. HE_E	Spearman's rho	.067	.020	.013	.032	.046	.218 ***	—		
	p-value	.074	.593	.719	.392	.220	< .001	—		
8. HE	Spearman's rho	.139 ***	.103 **	.079 *	.062	.124 ***	.845 ***	.675 ***	—	
	p-value	< .001	.006	.034	.095	< .001	< .001	< .001	—	
9. Nutritional Status H/A	Spearman's rho	.055	-.011	-.009	.091 *	.071	.029	-.035	-.003	—
	p-value	.139	.766	.812	.015	.056	.436	.344	.939	—
10. Nutritional Status W/A	Spearman's rho	.061	.079 *	.052	.079 *	.031	.022	.080 *	.066	.164 ***
	p-value	.102	.034	.167	.034	.404	.560	.032	.077	< .001

* p < .05. ** p < .01. *** p < .001

As indicated in the findings, family quality of life and psychosocial environment was at a good level. This was consistent with Carvalhaes dan Benicio (2006), where malnourished infants had poor psychosocial environments, increasing the risk of malnutrition in infants from low-income families. Low socioeconomic status did not necessarily relate to poor malnutrition but depended on how the primary caregiver provided a suitable psychosocial environment for growth and development. Engel et al. in Carvalhaes & Benicio, 2006 stated that this variable included care by engaging children in conversation regularly, telling stories, giving hugs and regular touch, providing a safe and enjoyable environment, as well as encouraging independence. According to Worku et al. (2018), psychosocial care

encompasses various aspects, including mother-child interactions, access to play facilities and areas, as well as allocated playtime. These interactions had the potential to foster a positive emotional bond between mothers and children. The majority of participants presented evidence indicating that mothers who provide an excellent emotional atmosphere and positive interactions can effectively support the growth and development of children. According to Warsito et al. (2012), this good psychosocial environment was also needed for the cognitive development of preschool-aged children besides the provision of good nutrition. According to Dewanggi et al. (2015), mothers residing in villages were typically close to children and are known to respond promptly to their needs and

conditions. In addition, they granted the liberty to engage in play within the confines of the home environment. The closely-knit community then enhanced the sense of safety and security of children to participate in social interactions with their peers and neighbors.

The growth and development related to the emotional state and family interactions were also shown by Vásquez-Garibay et al. (2015). The findings indicated that infants who suffered from malnutrition, including both underweight and obesity, were associated with families experiencing dysfunction. Furthermore, family with low levels of education exhibited a twofold increase in the likelihood of dysfunction. It was also noted that those affected had a higher propensity to introduce complementary feeding prematurely before infants had attained the age of 4 months, and to substitute breastfeeding with formula milk or other food alternatives.

In this study, family interaction was significantly related to the nutritional status of infants based on weight. It allowed the primary caregiver to provide psychosocial stimulation while accompanying children during meal times, enhancing the motivation to consume food. Good family interaction also enabled the primary caregiver to receive support from other members in implementing consistent children-rearing methods. Engel in Carvalhaes & Benicio (2006) stated that children in a good psychosocial environment showed good development in terms of eating and health. This was consistent with Hopkins and Kalverboer as well as Bently et al. (in Carvalhaes & Benicio, 2006), where a good psychosocial environment provided a good and enjoyable feedback mechanism for the primary caregiver. Children exhibited increased levels of activity within their environment and demonstrated healthy growth, which resulted in the parent feeling content with the condition. This positive outcome motivated the parents to provide better attention and care.

Enhancing parenting skills and providing superior cognitive and psychosocial

stimulation for malnourished children had a significant impact on children development. However, it should be noted that this intervention cannot entirely substitute for the developmental setbacks caused by stunting. Fawzi et al. (2019) stated that treating maternal depression can also affect changes in nutritional status regarding food security. Additionally, treating maternal depression involved positive coping exercises for abusive relationships, effective communication training, and improving the education and skills of mothers to become empowered. These exercises were related to the interaction dimension in family quality of life, which included open communication and problem-solving (Summers et al., 2005). Improved skills can indirectly enhance the quality of parenting, resulting in better care for children. Even though this study did not establish a significant correlation between parenting quality and the failure of children to thrive, other results demonstrated a link between the variables. In this study, parenting pertained to the extent to which parents met the fundamental requirements of children, including monitoring growth and development, ensuring adequate nutrition, and providing ample attention (Makatita & Djuwita, 2020; Yunitasari et al., 2021; Surani & Susilowati, 2020). Therefore, enhancing family interaction could serve as a means to improve the standard of parenting, which positively affected the provision of adequate nutrition and stimulation for children.

WHO provided guidelines for caring for severely malnourished children. In these guidelines, integrating physical and emotional stimulation was recommended. The recommendations involved the primary parents in the upbringing of children, using local materials to provide stimulation for play, providing group and independent activities, and teaching effective parenting skills. They strongly promoted strengthening the quality of the relationship between children and the family since related problems could be one of the important risk factors for malnutrition (Kerac et al., 2010; Shloim et al., 2015; Tung

& Yeh. 2014). Mothers of malnourished and developmentally delayed children were less responsive and showed less affection and communication (Grantham-McGregor. in Kerac et al., 2010; Ribeiro et al. in Worku et al., 2018). Another study conducted in India, Mexico, and Cameroon showed that malnourished and healthy children spent the same time breastfeeding. However, they were less likely to receive stimulation such as talking, playing, or being touched or hugged. Children with malnutrition problems showed low social interest, interacted less, and continued to seek the attention of mothers through sound or behavior during meals (Bouville in Kerac et al., 2010). A stimulating psychosocial environment should be created at the family level and community levels by improving facilities that support the play and development of children (Kumar et al., 2021) and empowering the community through education programs on nutrition and the role of parents in caring for and monitoring the growth of children (Wahyuningsih et al., 2022).

This study had several limitations, including issues related to the sampling process. Many sample data were not processed because of the inability to answer the main data completely, even though they were collected through direct interviews. Measuring infants directly and collecting data from mothers could cause obstacles, such as attention being disturbed. Furthermore, the collected data did not fully represent the actual situation, as some participants desired to appear good. Before the collection, the head of the village had duly notified the participants concerning the team responsible for collecting data on stunting. Consequently, the participants were requested to willingly acquiesce and collaborate with the team. This might influence the attitudes to accept and provide good answers. In future studies, participants could be gathered at the village hall or integrated service post during an event lasting one to two days for measurements and education. The study team could visit to conduct interviews, observe the physical

environment, and follow up with mothers who had not participated in the previous measurements. This was considered to provide more comfort for both mothers and the team, following the introduction during the official event at the village hall or health post.

This study was conducted as a part of a comprehensive collaborative initiative encompassing multiple disciplines. Accordingly, numerous inquiries were made and data were collected concurrently during the data collection process. This resulted in fatigue among the participants and data collectors, particularly when employing measurement and interview techniques in the field. The recommended method for data collection was followed, and the interview was divided between questions asked during the initial or subsequent days of measurement and follow-up visits. This approach conserved energy and improved the concentration of the participants. The study team should have ensured the significance of the questions to be answered comprehensively by the participants.

Conclusion

The study determined the relationship between family quality of life and psychosocial environment with the growth status of infants from low socioeconomic classes. This was conducted in Pandeglang Village and showed no significant relationship between the overall family quality of life and environment with the growth status of infants from a low socioeconomic class. However, the emotional state and interaction within the family as well as support were related to the growth status of infants from a low socioeconomic class. To support stunting prevention or intervention programs, nutritional education strategies that created an easy and comfortable atmosphere of interaction and stimulation was carried out between caregivers and infants.

Some suggestions considered were to conduct data collection sessions at two separate times with a proportional team. This

study involved a comprehensive anthropometric measurement activity conducted through separate visits for observation and interviews. In addition, it was crucial to ensure that participants responded to pertinent inquiries related to this study. Further analyses should be conducted through an intervention model with a specific period, such as from the provision of exclusive breastfeeding, by including the development of parenting skills and psychosocial stimulation for caregivers and significant others.

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