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Original Research

The Relationship Between Maternal Parenting Practices and the Incidence of Stunting Among Children Aged 0–59 Months

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Abstract
Stunting is a condition of growth failure in infants (0–11 months) and children under five (12–59 months) resulting from chronic malnutrition, particularly during the first 1,000 days of life. One of the contributing factors to stunting is inadequate parenting practices, which encompass parental attitudes, feeding behaviors, hygiene practices, and health-seeking behaviors within the household. This study aimed to examine the relationship between maternal parenting patterns and the incidence of stunting among children aged 0–59 months. This quantitative study employed a correlational design. A total of 85 mothers were selected using non-probability sampling with a systematic sampling technique. Data were collected using a structured closed-ended questionnaire and analyzed through univariate analysis (frequency distribution) and bivariate analysis using the chi-square test. The results showed that 41.2% of mothers had poor parenting patterns, while 62.4% of children were classified as stunted. Statistical analysis revealed a significant association between maternal parenting patterns and stunting incidence (p = 0.000). Detailed distributions and associations are presented in the Results section tables. In conclusion, maternal parenting patterns are significantly associated with stunting among children under five. Strengthening maternal knowledge and parenting practices through integrated health education is essential for stunting prevention.

1. Introduction

The incidence of short stature in children, commonly referred to as stunting, remains one of the major nutritional challenges faced by Indonesia today. According to the Indonesian Ministry of Health (2018), stunting is defined as a condition of impaired growth in children under five years of age resulting from chronic malnutrition, particularly during the first 1,000 days of life. Growth failure in toddlers occurs due to prolonged inadequate nutritional intake and recurrent infections, both of which are strongly influenced by inappropriate caregiving practices, especially during the critical 1,000-day window. A child is classified as stunted when the height-for-age index (HFA) falls below minus two standard deviations (< −2 SD) of the World Health Organization growth standards (WHO-MGRS, 2019). In addition to restricted physical growth, stunting as a form of malnutrition may adversely affect optimal brain development. This condition can lead to suboptimal cognitive abilities, learning difficulties, and poor academic performance. Furthermore, the long-term consequences of stunting and other forms of malnutrition are often associated with an increased risk of non-communicable diseases such as diabetes mellitus, hypertension, obesity, as well as higher susceptibility to infection-related mortality (Ministry of Health, 2018). The impacts of stunting can be categorized into short-term and long-term consequences. In the short term, stunting is associated with an increased incidence of illness and mortality, suboptimal cognitive, motor, and verbal

development in children, as well as higher healthcare costs. Long-term effects of stunting include non-optimal adult stature, an increased risk of obesity and other diseases, decreased reproductive health, reduced learning capacity and academic performance during school age, and lower productivity and work capacity in adulthood (WHO in Ministry of Health, 2018).

According to UNICEF and The Lancet, as cited in the Stunting Bulletin (Ministry of Health of the Republic of Indonesia, 2018), stunting is primarily influenced by caregiving practices, the quality of health services, environmental conditions, and food security. Caregiving practices can be simply defined as the attitudes or habitual behaviors of parents in nurturing and raising children within the household. The conceptual framework developed by UNICEF, which has been adapted to the Indonesian context, explains that caregiving practices encompass three main components: maternal attention and support for children in feeding practices (including Early Initiation of Breastfeeding, provision of colostrum, exclusive breastfeeding, and complementary feeding), psychosocial stimulation for children, and health care practices (including personal hygiene behaviors and the utilization of community-based health services such as posyandu) (UNICEF, 2012, cited in Sariningsih, 2015).

Parenting practices, expressed through attitudes, habits, and caregiving behaviors carried out by mothers toward their children, constitute an integral part of the behavioral domain. Behavior is composed of three domains, namely knowledge, attitudes, and practices (Notoatmodjo, 2012). Parenting practices are influenced by various supporting factors, which can be classified into internal and external factors. Internal factors originate from within the individual and include parents' caregiving background, level of education, socioeconomic status and income, talents and abilities, lifestyle, as well as the parenting models previously experienced by the parents. External factors arise from outside the individual and include cultural changes, local cultural influences, geographical location and prevailing ethical norms, religious orientation, the social and physical environment in which the family resides, as well as the parents' work environment. These factors collectively shape parenting practices applied to children in order to achieve goals that align with existing social norms.

A study conducted by Evy Noorhasanah (2018) on the relationship between maternal parenting practices and the incidence of stunting among children aged 12–59 months reported a significant association between maternal caregiving patterns and stunting among children in Cempaka Village, within the working area of the Cempaka Public Health Center, Banjarbaru City. Mothers who apply good parenting practices tend to consistently pay attention to their children's condition, enabling early prevention of stunting. Conversely, poor maternal caregiving practices may negatively affect children's growth and development, particularly their nutritional status. Most stunted children were found to have mothers with poor or inadequate parenting practices, increasing the likelihood that important factors related to the causes of nutritional problems are neglected. Similarly, a study by Febriani Dwi Bella (2019) examining the relationship between parenting practices and stunting among toddlers from low-income families in Palembang City found that toddlers with normal height-for-age (non-stunted) exhibited better parenting practices. These included appropriate feeding habits, caregiving behaviors, hygiene practices, and access to health services, compared to stunted toddlers from families with similar economic backgrounds.

2. Research Method

This study employed a quantitative research design using a correlational method. The study population consisted of mothers who had toddlers aged 0–59 months, totaling 185 individuals. Sample selection was conducted using non-probability sampling with a systematic sampling technique, resulting in a sample size of 85 mothers with children aged 0–59 months. Data were collected using questionnaires and observation sheets. Data analysis included univariate analysis, which was performed using frequency distribution to describe each sub-variable, and bivariate analysis to examine the relationship between two variables, namely the independent and dependent variables. The statistical test applied in this study was the Chi-square test with a significance level of 5%.

3. Results and Discussion

Table 1. ***Maternal Parenting Practices Among Children Aged 0–59 Months***

Maternal Parenting Practices	Frequency (f)	Percentage (%)
Good	28	32.9
Fair	22	25.9
Poor	35	41.2
Total	**85**	**100**

The data presented in Table 1 indicate that the majority of respondents demonstrated poor maternal parenting practices, with 35 mothers (41.2%). A smaller proportion of respondents exhibited fair parenting practices, accounting for 22 mothers (25.9%).

Table 2. Incidence of Stunting Among Children Aged 0–59 Months

Maternal Parenting Practices	Frequency (f)	Percentage (%)
Not Stunted	32	36.6
Stunted	52	62.4
Total	**85**	**100**

The data in Table 2 show that the majority of toddlers, 53 children (62.4%), were classified as stunted, while 32 children (37.6%) were not stunted.

Table 3. Relationship Bet□een Maternal Parenting Practices and Stunting Among Children Aged 0–59 Months

Maternal Parenting Practices	Not Stunted		Stunted		Total	
	f	%	f	%	f	%
Good	22	78.6	6	21.4	28	100
Fair	2	9.1	20	90.9	22	100
Poor	8	22.9	27	77.1	35	100
Total	**32**	**37.6**	**53**	**62.4**	**85**	**100**

The data presented in Table 3 indicate that among respondents with poor parenting practices, 27 mothers (77.1%) had children who were stunted, while 8 mothers (22.9%) had children with normal height-for-age. In contrast, among respondents with good parenting practices, only 6 mothers (21.4%) had stunted children, whereas 22 mothers (78.6%) had children with normal growth. The statistical analysis using the Chi-square test yielded a p-value of 0.000 (< 0.05), indicating that the null hypothesis was rejected. This result demonstrates a significant relationship between maternal parenting practices and the incidence of stunting among children aged 0–59 months.

Discussion

1. Maternal Parenting Practices

The results of this study indicate that the majority of respondents demonstrated poor maternal parenting practices, accounting for 35 respondents (41.2%). These findings are consistent with the study conducted by Adha et al. (2021), which reported that most mothers exhibited inadequate parenting practices (64.6%) in relation to the incidence of stunting among children aged 0–59 months. Similarly, research by Noorhasanah and Tauhidah (2021) on the association between maternal caregiving practices and stunting among children aged 12–59 months found that a large proportion of mothers applied poor parenting practices (55.7%).

Based on field observations, inadequate feeding practices were evident, as most respondents did not accompany or supervise their children during meals (55.3%). In addition, mothers often failed to provide a balanced diet consisting of staple foods (such as rice), side dishes, vegetables, fruits, milk, and sufficient drinking water (67.1%). Regarding psychosocial stimulation, the majority of mothers provided limited attention to feeding practices, psychosocial stimulation, and overall childcare (67.1%). Furthermore, in terms of health care practices, many mothers did not routinely encourage handwashing with soap before and after meals (52.9%) and did not establish regular daytime sleep habits for their children (51.8%).

According to the researchers, accompanying children during meals plays a crucial role in monitoring food intake and ensuring that adequate portions are consumed. Feeding practices in which toddlers eat without supervision or follow adult eating patterns may significantly contribute to the occurrence of stunting, as inappropriate food choices and insufficient nutrient intake may result. This situation persists due to the continued presence of mothers who do not supervise or assist their children during mealtimes, despite the importance of such practices in supporting optimal nutritional intake. Moreover, hands serve as a major transmission route for various infectious diseases, in addition to air and dust. Direct contact between hands and animals, human waste, bodily fluids (such as nasal discharge), or contaminated food and beverages can facilitate the transmission of bacteria, viruses, and parasites. Numerous diseases can develop when hand hygiene is poor. One of the recommended preventive measures to reduce infection risk is the routine practice of handwashing with soap.

Based on the discussion above, the researchers conclude that parenting practices represent a critical factor influencing child growth and development. Toddler caregiving encompasses maternal attitudes and behaviors related to feeding, health care, hygiene maintenance, emotional support, affection, and the provision of a sense of security. Providing attention and warmth during caregiving and establishing positive interpersonal relationships are essential components of effective maternal parenting practices, which play a vital role in supporting optimal child growth and development.

These findings are consistent with the study conducted by Yudianti and Saeni (2017) on maternal parenting practices and the incidence of stunting among toddlers in Polewali Mandar Regency, which reported that most mothers demonstrated inadequate feeding practices (52%). This study also aligns with the research by Sari and Rahmi (2017), which identified a significant relationship between parental education and parenting practices. Parents with limited knowledge tend to apply poorer parenting practices toward their children. This is because education influences parents' readiness and capacity to effectively implement appropriate caregiving practices.

2. Incidence of Stunting

Based on the results of this study, out of 85 toddlers, 53 children (62.4%) were classified as stunted, which was higher than the number of children with normal growth status, totaling 32 children (37.6%). These findings are in line with the study by Maulidah et al. (2019), which examined factors associated with stunting among children aged 0–59 months and reported a stunting prevalence of 51.3%. Stunting (short stature) among toddlers is a manifestation of chronic nutritional deficiencies occurring during both the prenatal and postnatal periods. Stunting represents impaired linear growth caused not only by insufficient nutrient intake but also by underlying health problems. The condition is indicated by a length-for-age or height-for-age z-score below −2 standard deviations (Rosmalina et al., 2018).

According to Tanzil and Hafriani (2021), factors influencing the occurrence of stunting in Indonesia include inadequate nutritional intake, particularly insufficient energy and protein consumption, child characteristics (such as birth weight and breastfeeding history), and socioeconomic factors (including maternal nutritional knowledge, maternal education level, employment status, and household income). In this study, most mothers had an elementary school education, accounting for 38.8% of respondents. This finding is consistent with the study by Tanzil and Hafriani (2021), which identified maternal education as a significant risk factor for stunting ($p = 0.000$). Maternal education plays a fundamental role in achieving optimal nutritional status among toddlers, as it is closely related to mothers' ability to access and understand information regarding nutrition and health. Mothers with higher education levels tend to have broader knowledge of child care practices and are better able to maintain a clean and healthy environment compared to those with lower educational attainment.

Based on interview results, the majority of mothers did not provide exclusive breastfeeding due to perceived insufficient breast milk production, leading to supplementation with formula milk. However, complementary feeding (MP-ASI) was generally introduced after the child reached six months of age, as most respondents were aware that early introduction of complementary foods could negatively affect infant health and immune function. According to established feeding guidelines, the introduction of complementary foods before six months of age increases the risk of infection, as the infant's digestive system is not yet fully developed to process foods other than breast milk. A child can achieve optimal growth if adequate nutrient intake is provided according to individual needs, even if exclusive

These findings are consistent with the study by Rahmad and Miko (2016), which concluded that toddlers with a history of non-exclusive breastfeeding were more likely to experience stunting. The absence of exclusive breastfeeding was identified as a dominant risk factor contributing to the increased likelihood of stunting among children.

3. Relationship Between Maternal Parenting Practices and the Incidence of Stunting Among Children Aged 0–59 Months

Based on the study findings, among children who received poor parenting practices, 27 children (77.1%) were stunted, while 8 children (22.9%) had normal growth status. In contrast, among children who received good parenting practices, only 6 children (21.4%) experienced stunting, whereas 22 children (78.6%) had normal height-for-age. The statistical analysis yielded a p-value of 0.000 (< 0.05), indicating a significant relationship between maternal parenting practices and the incidence of stunting among children aged 0–59 months. These results suggest that better parenting practices are associated with a lower prevalence of stunting, whereas poorer parenting practices are linked to a higher risk of stunting. In this study, the majority of mothers had an elementary school education. Maternal education is known to influence the incidence of stunting, with a higher likelihood of stunting observed among children of parents with lower educational attainment compared to those with higher education levels (Mustamin, 2018). This finding is consistent with the study by Yudianti (2016), which reported that improved maternal parenting practices were associated with a reduced prevalence of stunting, while inadequate parenting practices increased the likelihood of having stunted children.

Good maternal parenting practices influence how mothers apply appropriate behaviors, attitudes, and caregiving practices in child rearing. These behaviors include providing adequate nutritional intake, maintaining child hygiene, ensuring proper environmental sanitation, and utilizing available health facilities relevant to children's needs (Yudianti, 2016). Appropriate nutritional provision during the child's growth and development period is essential. Mothers who provide nutritionally inadequate diets, such as meals consisting mainly of plain rice with tempeh or rice with vegetable broth alone, may increase the risk of stunting. Conversely, mothers who provide nutritionally adequate meals rich in protein, such as rice with eggs, fish, and vegetables, are more likely to have children with normal growth status (Oktavia Ningtias & Solikhah, 2020).

Inadequate parenting practices may lead to growth and developmental problems in children, primarily due to mothers' limited understanding of appropriate caregiving methods. These issues can be addressed through various interventions, including health education and the provision of information related to proper parenting practices (Renyoet, 2012). The findings of this study are also in line with research conducted by Nurmalasari (2019), which demonstrated that parental caregiving practices significantly influence the occurrence of stunting. Parents who consistently accompany their children and provide adequate attention—particularly in ensuring sufficient intake of nutritious food—are more likely to have children with good nutritional status and a reduced risk of stunting. Maternal education also plays a critical role in shaping mothers' knowledge and awareness regarding appropriate food sources and nutritional requirements for children (Nurmalasari & Septiyani, 2019).

Based on the discussion above, the researchers conclude that maternal parenting practices, including feeding practices, psychosocial stimulation, and health care behaviors, play a vital role in determining children's health outcomes. Good parenting practices reduce children's vulnerability to stunting and other health problems. However, despite the application of good parenting practices, cases of stunting were still observed among 6 children (21.4%). This may be attributed to insufficient supervision during mealtimes, as accompanying children while eating is essential for monitoring food intake and ensuring adequate portion consumption. Feeding toddlers in the same manner as adults may contribute to inappropriate food choices and inadequate nutrient intake, thereby increasing the risk of stunting.

4. Conclusion

This study concludes that maternal parenting practices play a significant role in the occurrence of stunting among children aged 0–59 months. The findings indicate that a considerable proportion of mothers applied inadequate parenting practices, particularly in feeding practices, psychosocial stimulation, and health care behaviors. The

prevalence of stunting in this study was relatively high, reflecting the impact of chronic nutritional deficiencies and suboptimal caregiving during early childhood.

Statistical analysis demonstrated a significant relationship between maternal parenting practices and stunting, where children who received poor parenting practices were more likely to experience stunting compared to those who received good parenting practices. Although some children with good parenting practices were still affected by stunting, this suggests that stunting is a multifactorial condition influenced not only by parenting practices but also by maternal education, nutritional intake, breastfeeding history, and socioeconomic factors. Therefore, improving maternal parenting practices through nutrition education, appropriate feeding behaviors, hygiene promotion, and optimal utilization of health services is essential to reduce the risk of stunting and to support optimal growth and development in early childhood.

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