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ORIGINAL ARTICLE

DETERMINANTS OF NUTRITIONAL STATUS AMONG MALNOURISHED CHILDREN IN AGRICULTURAL AREAS

Tantut Susanto[1]*, Ainia Herminiati[2], Ninna Rohmawati[3], Rismawan Adi Yunanto[4], Ira Rahmawati[5], Syahroni Bachtiar[6], Nuning Dwi Merina[5], Yusrita Zolkefli[7]

1. Department of Community, Family & Geriatric Nursing, Faculty of Nursing, Universitas Jember, Jember, Indonesia
2. National Research and Innovation Agency, Indonesia
3. Department of Nutrition, Faculty of Public Health, Universitas Jember
4. Department of Emergency and Critical Nursing, Faculty of Nursing, Universitas Jember, Jember, Indonesia
5. Department of Pediatric Nursing, Faculty of Nursing, Universitas Jember, Indonesia
6. Department of Law and Political Empowerment, Jember District Health Service, Indonesia
7. Nursing Ethics, PAPRSB Institute of Health Sciences, Universiti Brunei Darussalam, Brunei Darussalam

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*Corresponding Author
Tantut Susanto
tantut_s.psik@unej.ac.id

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ABSTRACT

Stunting in children is a major global issue, especially in rural agricultural areas of Indonesia. Despite ongoing efforts to eliminate stunting, its prevalence remains high, adversely affecting children's cognitive and physical development. This study aimed to determine the factors influencing the nutritional status of stunted children in Indonesia's agricultural districts. A cross-sectional analytical study was conducted in Jember District, Indonesia, involving 236 malnourished children aged 0 to 59 months. Using stratified random sampling, structured questionnaires were utilized to collect data on family functioning, child feeding attitudes, and practices. The results are Family Function (B=0.038; 95% CI= 0,535 – 1,658, p value= 0.047); Child Feeding Attitude (B=0.030; 95% CI= 0,882 – 1,681, p value= 0.023); and Child Feeding Practice (B=0.120; 95% CI= 0,686 – 1,971, p value= 0.000). There were significant correlations between family function (p value= 0.047), child-feeding attitudes (p value= 0.023), and child-feeding practice (p value= 0.000) with children's nutritional status. This study highlighted a significant relationship among family function, child-feeding attitude, and practices concerning the nutritional status of children experiencing stunting. It emphasizes the importance of improving family function and supporting healthy child-feeding practices. Targeted interventions based on local cultural understanding are critical for effectively reducing stunting.

Keywords: *Agricultural; rural; nutritional status; stunting*

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INTRODUCTION

Malnutrition in children, particularly underweight (stunting), is when the body fails to reach its optimal growth potential, specifically in terms of ideal body weight and body mass index. This condition essentially represents an unresolved nutritional crisis at both national and international levels. (Lupiana et al., 2019). The Indonesian Ministry of Health reported a decrease in the prevalence of stunting from 27.7% to 24.4% in 2021; however, this figure remains significantly higher than the World Health Organization's recommendations of below 20% (Ministry of Health Republic of Indonesia, 2021). According to data from Bappenas, East Java was identified as a priority area for stunting from 2018 to 2019. In 2022, the stunting rate in East Java reached 21.6%, with its prevalence in Jember Regency at 39,4% Ministry of Health Republic of Indonesia, 2022). Stunting adversely affects cognitive, motor, and verbal development, increases morbidity and mortality rates, and permanently

shorter body posture in adulthood (Syahrul et al., 2016). Therefore, caring for stunted children in families by optimizing local food sources and local families is essential in family nursing care.

The issue of stunting requires a comprehensive approach that optimizes various local resources through the active involvement of all segments of society, including both central and regional governments (Syahrul et al., 2016). Convergence, coordination, and consolidation of balanced nutrition programs to address child nutrition need to be implemented in different regions using local cultural wisdom approaches and the potential of local food sources to combat stunting (Ministry of Health Republic of Indonesia, 2018). The population in the Jember area is characterized by a blend of Javanese and Madurese cultures, collectively called Pandalungan culture (Susanto et al., 2019). The local wisdom inherent in Pandalungan culture, particularly in family parenting patterns, plays a crucial role in shaping the structure and function of the families in meeting the nutritional fulfillment of children (Susanto et al., 2016).

The Pandalungan ethnic group, a society formed through the acculturation and integration of the Madurese and Javanese races, possesses distinct health beliefs and practices. The uniqueness of the Pandalungan lifestyle results in specific health beliefs and practices that shape their dietary habits. For instance, the community's aversion to consuming eggs arises from the belief that they can lead to health ailments, particularly ulcers, showcasing their traditional dietary taboos and the significance of cultural perceptions regarding food. Additionally, their dietary patterns reveal a preference for rice as a staple, often accompanied by modest portions of vegetables and side dishes, emphasizing the cultural significance of specific food combinations and proportions. Furthermore, providing additional food to infants below six months reflects a unique nutritional tradition within the Pandalungan community, suggesting a complex interplay between cultural norms, beliefs, and dietary practices contributing to their distinctive lifestyle and nutritional intake (Yani et al., 2023).

In an agricultural context, the Pandalungan community's environment and lifestyle contribute to a distinct social construction of the community and a unique approach to infant nutrition. The agricultural setting and lifestyle of the Pandalungan community considerably impact their dietary habits and nutritional intake practices, notably in terms of baby nutrition. The unique combination of local food resources and the social-cultural context of the Pandalungan community is expected to play a crucial role in influencing the types and nutritional quality of food provided to children. This may encompass traditional food choices, cooking methods, and cultural beliefs surrounding infant feeding practices, all of which contribute to the overall nutritional intake of children in the community. Understanding these patterns is critical for establishing targeted treatments to improve nutrition outcomes for children in the Pandalungan community (Rahmawati et al., 2019).

The mapping of factors related to nutritional issues, specifically stunting in children residing in agricultural and plantation areas of Indonesia, requires further investigation. This tone arises from the controversy that, despite the agricultural sector's abundant natural resources, stunting persists in these regions, especially in Jember, a rural agricultural area. The functioning of families in childcare, children's feeding patterns, and mothers' attitudes toward nutrition and children's nutritional status are essential to be analyzed. Previous research conducted in agricultural areas with a focus on the Pandalungan community showed that factors such as food value, beliefs about foods, and food taboos (abstinence from eating) significantly influence nutritional caregiving patterns, ultimately impacting improved nutritional parenting patterns (Ainy et al., 2021; Febrianti et al., 2022; Jannah et al., 2022; Ningtyias et al., 2022; Susanto et al., 2021). Therefore, this study aims to explore family functioning patterns, maternal attitudes, and child-feeding practices within the Pandalungan community concerning the prevalence of stunting among children in this agricultural setting.

METHOD

Study design

The study was an analytical cross-sectional design to examine the determinants of nutritional status among malnourished children in agricultural areas of Indonesia.

Participants

The study was conducted in the Jember District from May to August 2023. The study population consisted of malnourished children in three public health centers in Jember, East Java, Indonesia (Sukorambi, Panti, and Banjarsengon). A stratified random sampling was employed to select the sample. The sample size was calculated using the G*Power program, with a statistical significance level set at 0.05. The effect size was 0.25, the power was 0.80, and two samples yielded a sample of 236 participants. A total of 236 participants were randomly selected using a randomizer of a computer application. The inclusion criteria were determined as follows: (1) Parents and children residing in agricultural, rural areas; (2) Children aged 0-59 months who experience stunting, defined as having a Z Score = less than -2 SD (for height-for-age), on data available at the Community Health Center; (3) Parents who were willing to participate in the research and provide the necessary information. The parents and children who have medical disorders or serious health conditions, such as chronic illnesses, genetic disorders, severe infections, metabolic disorders, or severe physical or neurological disabilities, were excluded from this study. Researchers gathered information regarding medical conditions from medical records, parental interviews, health assessments, and collaboration with healthcare facilities. A series of informed consents were provided to parents for approval as a legal form requirement for the research.

Instrument

The data collection tools in this study consisted of two parts. The first part was focused on the demographic information of the participants. This demographic data included both parents and children. The parental demographic data encompassed age, family role, religion, ethnicity, number of children, number of stunted children, employment status, education level, family income (per month), mother's age during pregnancy, and childbirth history. Meanwhile, the child demographic data consisted of age, gender, and the Z-score based on weight for age. Meanwhile, the second part consisted of three questionnaires: (1) The Family Assessment Device (FAD), (2) The Child Feeding Questionnaire (CFQ), and (3) The Child Feeding Assessment (CFA).

The Family Assessment Device (FAD) was utilized to assess the family functioning and the patterns of transactions among family members. Grounded in the McMaster Model of Family Functioning (MMFF), the FAD measures families' structural, organizational, and transactional characteristics. It consists of

60 questions divided into six scales that evaluate the six dimensions of the MMFF - affective involvement, affective responsiveness, behavioral control, communication, problem-solving, and roles. Previous assessments of the FAD have demonstrated good validity and reliability (Byles et al., 1988). The answers to the questionnaire were scored with a maximum total score of 240 points. Based on the scoring distribution, family functioning was categorized into three levels: low (scores ≤ 105), moderate (scores between 106 and 195), and high (scores ≥ 196). These categories were determined using quartiles calculated manually based on 25%, 50%, and 75% of the total score range.

The Child Feeding Questionnaire (CFQ) assessed feeding patterns from parent to child, focusing on domain monitoring, eating restrictions, and eating pressure. The CFQ was first developed by Birch et al. in 2001 to evaluate parental beliefs, attitudes, and practices related to feeding among 2–to 11-year-old children in the United States. The Child Feeding Questionnaire (CFQ) has been used in a few studies in various communities. Previous studies tested acceptable CFQ reliability or validity (Mosli, 2020). The CFQ consisted of 31 questions with a maximum score of 155. Based on the scoring distribution, child feeding practices were categorized into three levels: low (scores ≤ 86), moderate (scores between 87 and 120), and high (scores ≥ 121).

The child-feeding practice from family to child was measured using a questionnaire developed based on WHO guidelines for indicators to assess infant and young child feeding practices (Child Feeding Assessment (CFA)) (WHO, 2021). The questionnaire comprises 35 questions organized into several subscales: 1) Questions About Feeding Immediately After Birth (3 questions); 2) Questions About Current Breastfeeding and Bottle Feeding (2 questions); 3) Questions About Liquids (10 questions); and 4) Questions About Foods (20 questions). The child feeding practice questionnaire has a minimum score of 35 and a maximum score of 70. Based on the scoring distribution, child-feeding practices were categorized into three levels: low (scores ≤ 46), moderate (scores between 47 and 58), and high (scores ≥ 59).

Data collection

A set of questionnaires, accompanied by detailed instructions, was administered and completed by the subject's mother or primary caregiver. The day before data collection, parents were informed by the data collection team about the time and location of data collection. On the day of data collection, respondents were provided with a set of questionnaires and informed consent sheets to complete, which were then collected and checked for completeness. During the questionnaire completion process, six enumerators assisted in ensuring that all respondents understood the instructions given for the questionnaire. Once the questionnaire was completed, the respondent returned it to the researcher and enumerator for re-checking. Each respondent who completed the questionnaire received the measurement results, a small prize, and a participation certificate at the end of the research.

Data analysis

Data were entered, cleaned, and checked before analysis (Susanto et al., 2021b). Researchers employed IBM SPSS software version 24 for the study. Univariate analysis was performed on demographic characteristics of respondents, which are presented as frequency distributions and percentages. Data related to family functioning, feeding patterns in children, and child feeding practices are reported as Mean and standard deviation (SD). A data normality test using the Kolmogorov-Smirnov test was carried out on each sub-variable, yielding an overall value of <0.001, which indicates the data are not normally distributed. This suggests that the phenomenon of responses to variables varies greatly among respondents. Each variable X was categorized into three groups (high, medium, low) based on the cut-off point. Bivariate analysis with chi-square was carried out on three variables (X) to the child's nutritional status variable (Y). Subsequently, multiple logistic regression was used to analyze the data. Bivariate and multivariable logistic regression was also performed to assess the probability [odds ratio (OR)] of encountering malnutrition in a child, which was calculated using the exponential of beta (Exp(B)) and compared to the reference category. An association was deemed significant if the p-value < 0.05 and very significant if the p-value < 0.01.

Ethical considerations

The Health Research Ethics Committee, Faculty of Nursing, Universitas Jember, approved this study under certificate 2049/UN25.8/KEPK/DL/2023.

RESULT

This study aims to evaluate the factors influencing the nutritional status of children experiencing stunting in agricultural areas. Table 1 presents the characteristics of respondents, which include both parents and children, with a total of 236 respondents. Most parents involved in this research were mothers (84.3%), while a smaller proportion were fathers (15.7%). All respondents to this study were Muslims (100.0%), with the majority being Madurese ethnicity (62.7%). The education level of parents with stunted children is predominantly senior high school (35.2%). Most respondents were between 21 and 40 years old during pregnancy (85.6%), and most reported a normal childbirth history (86.4%). Among the malnourished children who participated in the study, most were aged between 12 and 59 months (92.8%). The malnutrition conditions observed in these children primarily included underweight (72.9%), while the remainder were classified as very underweight (27.1%).

Table 1. Characteristics of respondents (parents and child) (N=236)

Characteristics	Frequency	
	n	%
Parents		
Age (year)		
<20	3	1.3
20-30	45	19.1
30-40	183	77.5
>40	5	2.1
Role		
Mother	199	84.3
Father	37	15.7
Ethnic		
Javanese	88	37.3
Madurese	148	62.7
Number of malnutrition child		
1	221	93.6
2	15	6.4
Work		
Government employees	11	4.7
Private employees	2	0.8
Entrepreneur	14	5.9
Not working	160	67.8

Characteristics	Frequency	
	n	%
Education Level		
Not Attending School	14	5.9
Elementary School	59	25.0
Junior High School	65	27.5
Senior High School	83	35.2
Diploma Program	15	6.4
Family income (/months)		
< Rp 2.550.663	229	97.0
Rp 2.550.663	-	0.0
> Rp 2.550.663	7	3.0
Mother's Age during Pregnancy (year)		
<21	33	14.0
21-40	202	85.6
>40	1	0.4
Childbirth History		
Normal	204	86.4
Section Caesarea	32	13.6
Child		
Age (Month)		
0 – 11	17	7.2
12 – 59	219	92.8
Gender		
Male	113	47.9
Female	123	52.1
Weight/Age		
Underweight	172	72.9
Very Underweight	64	27.1

Table 2 describes the results of the analysis of various factors influencing the nutritional status of children experiencing stunting in agricultural rural areas, focusing on three primary variables: family function, child-feeding attitudes, and child-feeding practices. The results of the one-sample test indicated that the distribution of values for each sub-variable within family function -- such as problem-solving ability, communication, roles, affective responses, affective involvement, and behavioral control, yielded significant values ($p < 0.001$). Similarly, child-feeding attitudes, encompassing sub-variables such as perceived responsibility, perceptions of parent and child weight, worries about child weight, restrictions, pressure to eat, and monitoring, also showed significant results ($p < 0.001$). Furthermore, child-feeding practices, which included providing nutrition after birth, breastfeeding and bottle-feeding, fluid administration, feeding, and re-examination, also exhibited significant values ($p < 0.001$). These findings indicate substantial variation in each aspect studied, highlighting the complexity and diversity in family functioning, attitudes, and child-feeding practices among stunted children in rural agricultural areas.

Table 2. Determinants of nutritional status of stunting children in rural agricultural areas

Variable	Mean	SD	p
Family Function			
Problem-Solving	16.96	2.091	< 0,001
Communication	19.02	2.928	< 0,001
Roles	24.43	3.102	< 0,001
Affective Responsiveness	24.43	1.969	< 0,001
Affective Involvement	13.09	1.969	< 0,001
Behavior Control	18.94	2.048	< 0,001
General Function	31.93	2.790	< 0,001
Total	136.39	10.629	< 0,001
Feeding Patterns in Child			
Perceived Responsibility (PR)	12.56	2.372	< 0,001
Perceived Parent Weight (PPW)	11.20	2.949	< 0,001
Perceived Child Weight (PCW)	12.35	6.581	< 0,001
Concern about Child Weight (CN)	12.55	2.084	< 0,001
Restriction (RST)	30.46	5.289	< 0,001
Pressure to Eat (PE)	16.81	2.970	< 0,001
Monitoring (MN)	11.59	2.716	< 0,001
Total	107.53	16.043	< 0,001
Child Feeding Practice			
Providing Nutrition After the Child is Born	3.21	0.655	< 0,001
Current Breast and Bottle Feeding	3.72	2.826	< 0,001
Giving Fluids to Children	36.71	26.013	< 0,001
Feeding Children	35.33	18.831	< 0,001
Feeding Monitoring	9.55	1.582	< 0,001
Total	88,95	38,97	< 0,001

Table 3 presents a bivariate analysis that evaluates the influence of family functioning, child-feeding attitudes, and practices on the nutritional status of children experiencing stunting, categorized as underweight and very underweight. The results illustrate a significant relationship between these variables and children's nutritional status. Families with low functioning, negative child-feeding attitudes and poor child-feeding practices exhibit a higher proportion of children in the underweight and very underweight categories compared to those in the medium and high categories. This is supported by a p-value that is less than alpha ($p < 0.05$), indicating statistical significance in the impact of these variables on children's nutritional status.

Table 3. Effect of family function, child feeding attitude, child feeding practice on nutritional status

Indicators	Underweight		Very Underweight		Total		p
	n	%	n	%	n	%	
Family Function							
Low	16	9.4	6	9.5	23	9.7	0,019*
Moderate	121	71.2	44	69.8	166	70.3	
High	33	19.4	13	20.6	47	19.9	
Child Feeding Attitude							
Low	25	14.7	17	27.0	42	17.8	0,039*
Moderate	122	71.8	34	54.0	158	66.9	
High	23	13.5	12	19.0	36	15.3	

Indicators	Underweight		Very Underweight		Total		p
	n	%	n	%	n	%	
Child Feeding Practice							
Low	96	56.5	42	66.7	141	59.7	0,020*
Moderate	7	4.1	2	3.2	9	3.8	
High	56	39.4	19	30.2	86	36.4	

*Note:*p<α, α=0,05*

Table 4. Effect of family function, child feeding attitude, child feeding practice on nutritional status

Indicators	B	SE	t	95% CI	Sig
(Constant)	2,373	0,146	16,234		0,832
Family Function (X1)	0,038	0,032	1,193	0,535-1,658	0,047
Child Feeding Attitude (X2)	0,030	0,054	0,567	0,882-1,681	0,023
Child Feeding Practice (X3)	0,120	0,056	0,212	0,686-1,971	0,000

Table 4 presented the results of multiple logistic regression analyses that evaluate the effects of family functioning, child-feeding attitudes, and child-feeding practices on children's nutritional status, as indicated by the variable "Y=Nutritional Status." The regression findings revealed that all independent variables significantly influenced children's nutritional status. The coefficient value (B) showed both the direction and magnitude of this influence, while the significance value (Sig) reflected the level of statistical significance. The family functioning variable (X1) had a coefficient value of 0.038 and a significance value of 0.047, suggesting that improved family functioning correlates with better nutritional status in children. Similarly, the variables of child-feeding attitudes (X2) and child-feeding practices (X3) also significantly affected children's nutritional status, with coefficient values of 0.030 and 0.120 and significant values of 0.023 and 0.000, respectively. These results underscored the vital role of these factors in determining the nutritional status of children experiencing stunting in agricultural rural areas.

DISCUSSION

This research aims to analyze the factors contributing to malnutrition in children under 5 years old in Indonesian plantation agricultural areas. The findings showed that family functioning, child-feeding attitudes, and child-feeding practices significantly influence the determination of the nutritional status of stunted children in rural agricultural areas.

Family functioning is the first factor that has a pivotal influence on children's nutritional status. The research findings show that family functioning has a notable relationship with the incidence of child malnutrition (X1), with a p-value of 0.038. This research aligns with previous research, demonstrating a significant correlation between family functioning and the prevalence of child malnutrition (Febrianti et al., 2022). The way families implement their functions can affect children's feeding practices. Well-executed family functions positively impact the nutritional status of children within the family (Rachmawati et al., 2021).

Other findings in this study also depict that children from families with weaker functioning are at a higher risk of experiencing malnutrition. These findings align with research conducted in other populations that have explored the relationship between the level of family functioning and children's food intake, revealing that low family functioning is linked to inadequate food intake among children (Colón-Ramos et al., 2021; Khotibuddin & Shellia, 2022). We assume that the study's results highlight the critical role of family functioning in determining the nutritional status of children in agricultural rural areas. Good family functioning can help children receive an adequate and balanced diet for their growth and development.

Family functioning plays a pivotal role in children's nutritional status, encompassing various domains that collectively influence how families address and manage their children's nutritional needs (Febrianti et al., 2022). The primary domains of family functioning that impact nutritional status include problem-solving, communication, roles, affective responsiveness, affective involvement, behavioral control, and general functioning (Khotibuddin & Shellia, 2022). Problem-solving evaluates a family's ability to address challenges and make effective decisions, which is crucial for tackling nutritional issues such as nutritional deficiencies or food insecurity (Fazrin et al., 2022). Effective communication within the family is vital for discussing and implementing healthy eating practices, ensuring that all family members understand the significance of nutrition and adhere to dietary guidelines (Dev et al., 2017). A clear division of roles facilitates an effective allocation of tasks related to food provision and preparation, enabling family members to collaborate in ensuring that children receive nutritious meals (Karmali et al., 2020). Affective responsiveness measures the family's ability to emotionally respond to a child's nutritional needs. In contrast, affective involvement assesses the extent to which family members engage in the child's emotional life, including their attention to their food intake. Behavioral control pertains to the family's ability to implement rules and supervise children's eating habits. At the same time, general functioning reflects the overall well-being and harmony within the family that supports healthy eating patterns (Rahmadiyah et al., 2024). These domains are interconnected and collectively influence the nutritional status of children within the family environment.

Child Feeding Attitude (X2) also has a significant relationship with the incidence of malnutrition in children. This attitude encompasses parents' responsibilities in feeding their children, their perceptions of their children's weight, parents' concerns about their children's weight, restrictions on food provided to children, pressure to eat, and supervision of children's eating patterns. Research displays that parents' attitudes toward child feeding notably impact children's nutritional status. Parents who maintain a positive attitude toward feeding their children are likelier to have children with better nutritional status.

Mothers' less assertive attitudes toward the nutritious food served to children have been identified as a barrier to optimal feeding practices (Pedroso et al., 2019; Rakotomanana et al., 2020; Zakaria et al., 2022). It can be argued that a mother with a positive attitude can help reduce the stunting rate in children under two years old. A mother's attitude is critical to ensuring her child's nutritional status. Cleanliness, safety,

and proper preparation for storing and serving food are essential, as they directly impact food safety and the overall enjoyment of meals (Aparício et al., 2015; Husna et al., 2024). Previous studies explain that maternal nutritional knowledge is significantly related to attitudes. Mothers with limited nutritional knowledge tend to exhibit poor nutritional attitudes toward their children (Ikhsan et al., 2018). We hypothesize that parents' attitudes toward feeding their children have a significant relationship with the incidence of malnutrition. Research demonstrates that parents with a positive attitude toward feeding their children are likelier to have children with better nutritional status. However, mothers' lack of assertiveness regarding nutritious food for their children is a barrier to optimal feeding practices. Therefore, it is essential to foster positive parental attitudes and maternal nutritional knowledge as intervention strategies to reduce stunting rates in children.

Several critical domains related to parental attitudes toward feeding include Perceived Responsibility (PR), where parents who feel entirely responsible for their children's nutrition tend to be more attentive and consistent in providing nutritious food (Te Ku Nor et al., 2024). Perceived Parent Weight (PPW) also plays a critical role, as parents' perceptions of their weight can influence their feeding practices; for instance, parents who perceive themselves as overweight may be more likely to offer healthier foods (Sarker et al., 2024). Perceived Child Weight (PCW) refers to a parent's perception of their child's weight, which can modify their eating patterns to pursue an ideal weight (García-Blanco et al., 2022). The Concern about Child Weight (CN) also affects the type and quantity of food provided, as highly concerned parents tend to be more selective in choosing healthy and nutritious food. Food restrictions (RST) imposed by parents can limit the variety and balance of nutrition that children need, while pressure to eat (PE) exerted by parents can have a negative impact; children who feel forced to eat may develop an unhealthy relationship with food (Dalimunthe et al., 2021). Finally, monitoring (MN) by parents of children's eating patterns by parents is crucial, as those who actively monitor their children's food intake are more likely to ensure that their children receive adequate and balanced nutrition (Sahu et al., 2019). Thus, parents' attitudes and approaches to feeding significantly impact children's nutritional status, with a positive and responsible attitude from parents contributing to better nutritional outcomes for children.

Child Feeding Practice (X3) has the most significant relationship with the incidence of malnutrition in children. These practices encompass how parents feed their children from birth, giving breast milk or formula, offering fluids, the type of food served, and the frequency of meals. The research results indicate that parents' child-feeding practices also significantly influence their children's nutritional status. Parents who adopt effective feeding practices, such as providing adequate early, balanced, and nutritious meals, tend to have children with better nutritional status.

This research aligns with previous studies demonstrating a positive correlation between feeding practices and children's nutritional status. The better the feeding practice, the more favorable the nutritional status of children, and vice versa (Christian et al., 2023; Palupi et al., 2019). Feeding children according to their developmental stage ensures that growing children receive nutrient-rich foods. Strengthening mothers' skills in child feeding through health service initiatives is one of the crucial efforts to enhance children's nutritional status (Ganesan et al., 2021). Preceded research has shown that utilizing existing health services can significantly improve infant and child feeding practices (Arifa et al., 2024; Talapessy et al., 2023). Attention should be directed to socio-economic empowerment, particularly in girls' education, regular health service visits, and access to community-based growth and development counseling support systems that promote knowledge on optimal feeding practices. Apart from that, support from other family members is crucial for a mother in deciding which complementary foods to provide alongside breast milk. Increased autonomy and authority for women in decision-making related to child nutrition have been associated with improved feeding and nutrition practices for children (Heckert et al., 2019).

The domain of child feeding practices addressed in this research questionnaire consists of several main components that have a significant relationship with the incidence of malnutrition in children. Factors such as nutrition provided after birth, current breastfeeding and bottle-feeding practices, fluid intake, feeding methods, and the re-evaluation of nutritional status all play a crucial role in determining children's nutritional health. Providing adequate nutrition to children from an early age profoundly impacts the child's nutritional status. The quality of infant and young child feeding practices in Indonesia, which includes early initiation of breastfeeding, exclusive breastfeeding, and provision of complementary foods following recommendations, remains relatively low. Consequently, IYCF interventions to educate and assist pregnant women must be implemented as sustainable programs (Simbolon et al., 2024). Methods for measuring children's feeding practices should be complemented by observational data collection to assess behaviors, and these assessments should be carried out both formatively and summatively to obtain comprehensive results (Schwendler et al., 2024). Good feeding practices encompass the type and frequency of food provided and the timely initiation and quality of interactions between the mother and child during the feeding process. Therefore, comprehensive and evidence-based interventions are essential to improve the quality of child feeding practices in Indonesia, ultimately helping to reduce malnutrition rates and improve the overall nutritional status of children.

Regarding the results of this study, we believe that child-feeding practices have the most significant impact on the incidence of malnutrition in children. This encompasses how parents feed children from birth, the types of food provided, and the feeding frequency. Parents who implement effective feeding practices tend to have children with better nutritional status. Socio-economic support, health service visits, and access to community-based counseling are needed to implement optimal feeding practices. Family support for mothers in making child nutrition decisions is also crucial. The limitations of this study include potential recall bias in self-reported data, a cross-sectional design that restricts causal inference, and geographical specificity, which limits the generalizability of the findings to other agricultural areas.

CONCLUSION AND RECOMMENDATION

This study shows that factors such as family functioning, child-feeding attitudes, and child-feeding practices significantly determine the nutritional status of stunted children in rural agricultural areas. These findings highlight the critical role of the family environment and feeding practices in enhancing the nutritional status of stunted children. There is a pressing need for intervention programs that aim to improve family functioning and promote healthy child-feeding practices to tackle the issue of stunting among children in rural agricultural areas.

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