

## The Relationship Between Maternal Self-Efficacy and Feeding Patterns and the Incidence of Wasting among Children Under Five at the Penfui Community Health Center

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### ARTICLES

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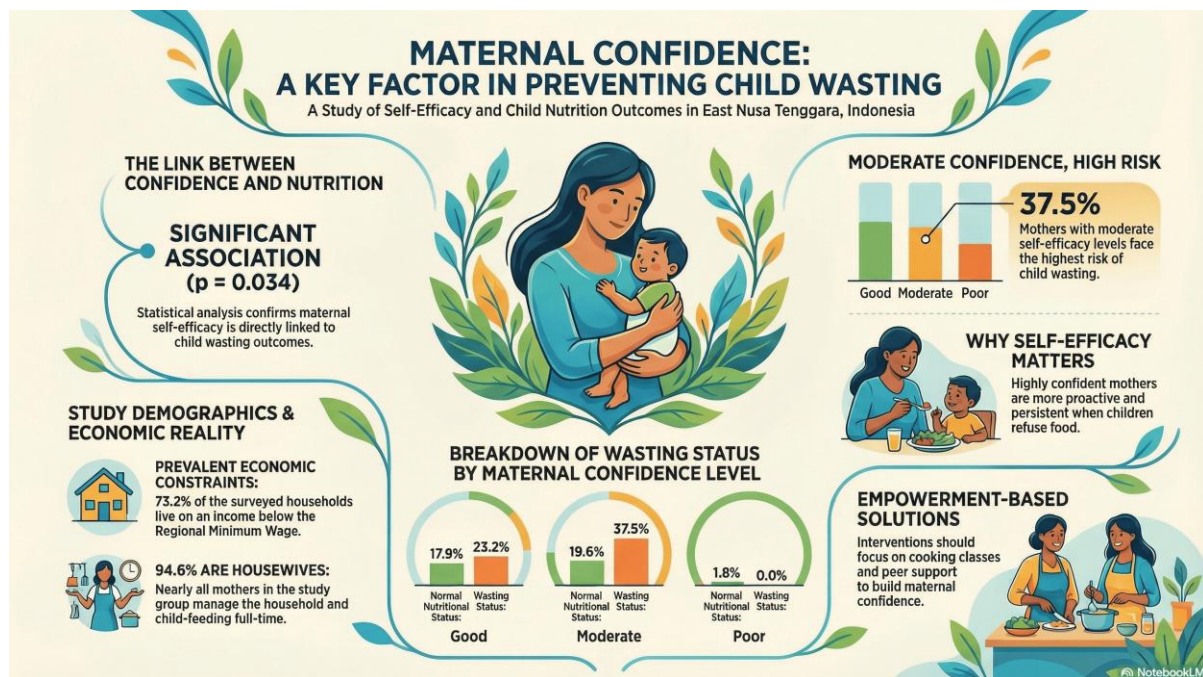
### ABSTRACT

Wasting remains a serious public health problem in Indonesia, particularly in East Nusa Tenggara Province. Maternal factors, such as self-efficacy (confidence in one's own abilities) and feeding practices, are believed to play a crucial role in determining young children's nutritional status. This study aimed to analyze the relationships among maternal self-efficacy, feeding patterns, and the incidence of wasting among children under five in the working area of the Penfui Community Health Center. An observational analytic study with a cross-sectional design was conducted. A total of 56 children were selected using simple random sampling. Maternal self-efficacy and feeding patterns were assessed using structured questionnaires, and wasting status was determined from anthropometric measurements using the weight-for-height index (WH). Data were analyzed using the chi-square test with a significance level of  $p < 0.05$ . The results showed a statistically significant association between maternal self-efficacy and the incidence of wasting ( $p < 0.05$ ). The association between feeding patterns and wasting could not be statistically analyzed because the sample was entirely homogenous, with all respondents reporting appropriate feeding practices. In conclusion, maternal self-efficacy is an important factor associated with wasting among children under five. Therefore, nutrition interventions should emphasize strengthening maternal capacity and confidence in implementing appropriate child-feeding behaviors.

#### Key Messages:

- Maternal self-efficacy is significantly associated with the incidence of wasting among young children, highlighting the importance of intervention programs that empower mothers and enhance their confidence in managing child nutrition.

## GRAPHICAL ABSTRACT



## INTRODUCTION

The prevalence of wasting in Indonesia remains high and continues to pose a significant public health concern. According to World Health Organization (WHO) data, 10.2% of children under five globally experience wasting. The 2018 Indonesian Basic Health Research (Riset Kesehatan Dasar/Riskesdas) reported that 3.5% and 6.7% of children under five were classified as severely wasted and wasted, respectively (1). East Nusa Tenggara Province (NTT) is among the regions with a higher prevalence of nutritional problems than the national average. Based on the weight-for-height (WHZ) indicator, 4.6% of children were severely wasted, and 8.2% were wasted. Kupang Regency is one of the districts in NTT with a relatively high proportion of children experiencing nutritional problems, with 3.83% classified as severely wasted and 8.89% as wasted. In addition, the prevalence of severe undernutrition and undernutrition reached 6.12% and 30.21%, respectively. Data from the Indonesian Nutrition Status Survey (SSGI) indicated that the prevalence of wasting among children under five was 7.1% in 2021 and increased to 7.7% in 2022, representing a rise of 0.6% (2). Furthermore, the 2023 Indonesian Health Survey reported that the prevalence of wasting in NTT increased to 49.5% in 2023 (3). Nationally, the prevalence of undernutrition among children under five, particularly wasting, reached 53.5% in 2023, underscoring that wasting remains a serious public health issue in Indonesia (4).

Wasting is influenced by multiple factors, including child-related characteristics, parental factors, economic conditions, educational level, and limited access to health care facilities (5). Feeding practices are closely associated with maternal self-efficacy, defined as a mother's confidence in her ability to provide appropriate nutrition for her child. Self-efficacy is a key determinant of maternal behavior in supporting child nutrition, as higher self-efficacy promotes positive caregiving practices (6). Adequate maternal confidence directly affects feeding behaviors, including the provision of healthy and diverse foods, appropriate portion sizes, responsiveness to hunger and satiety cues, age-appropriate foods, and general confidence in feeding practices (7). Mothers with low self-efficacy who doubt their ability to provide sufficient or nutritious food tend to give up more easily when children refuse food and are less likely to seek healthy alternatives under constrained conditions. In contrast, mothers with high self-efficacy are more likely to actively seek solutions, such as offering a variety of foods, following health professionals' guidance, and maintaining consistent feeding routines. Therefore, strengthening maternal self-efficacy in feeding practices represents a critical strategy for preventing wasting. Public health interventions, including nutrition education, mother-child health classes, and psychosocial support, can effectively

enhance maternal confidence and promote appropriate feeding practices (8).

Feeding practices are closely associated with maternal self-efficacy, defined as a mother's confidence in her ability to provide appropriate nutrition for her child. This study aims to examine the relationship between maternal self-efficacy, feeding patterns, and the occurrence of wasting among children under five at the Penfui Community Health Center.

## METHODS

This study employed an observational analytic design with a cross-sectional approach. The research was conducted at Posyandu in Penfui, Naimata, and Maulafa villages within the working area of the Penfui Community Health Center during June 2025. The study population consisted of children aged 6–59 months residing in Penfui, Naimata, and Maulafa villages, totaling 124 children, based on reports from the Penfui Community Health Center.

The sample size was calculated using the Slovin formula, resulting in a total of 56 children. Participants were selected using simple random sampling to ensure equal opportunity for inclusion.

The independent variables were maternal self-efficacy and feeding patterns, while the dependent variable was wasting nutritional status. Maternal self-efficacy was defined as an individual's belief in their ability to organize and execute actions required to achieve specific goals (9). Self-efficacy was measured using a structured questionnaire and categorized as high (76–100%), moderate (56–75%), and low (<56%) according to established criteria (10).

Feeding patterns referred to all maternal efforts and practices in providing food to toddlers to meet both quantitative and qualitative nutritional needs, thereby supporting optimal growth and development (11). Feeding practices were classified as appropriate (55–100%) or inappropriate (<55%) based on questionnaire scores (12).

Wasting was defined as a form of acute undernutrition characterized by low body weight relative to height, assessed using the weight-for-height z-score (WHZ) index. Anthropometric measurements were obtained using standardized instruments, including an infant meter or stadiometer, digital weighing scale, and baby scale. Nutritional status was classified as wasting or severe wasting (z-score < -2 SD) and non-wasting (z-score  $\geq$  -2 SD).

Data analysis was performed using SPSS for Windows. Univariate analysis was used to describe respondent characteristics, while bivariate analysis was conducted using the chi-square test to examine associations between variables. Statistical significance was determined at  $p < 0.05$ .

## RESULTS

Table 1 presents the sociodemographic characteristics of the 56 respondents included in this study. The majority of toddlers were male (67.9%) and were aged 12–24 months (57.1%). Most mothers were housewives (94.6%), with senior high school as the most common educational level (30.4%). Fathers' occupations varied considerably, with self-employment being the most frequently reported (32.1%). From an economic perspective, most households (73.2%) had an income below the Regional Minimum Wage (RMW), indicating that economic constraints were prevalent among the study population.

**Table 1. Respondent Characteristics**

Characteristics	Categories	n	%
Child's sex	Male	38	67.9
	Female	18	32.1
Child's age (months)	12 – 24	32	57.1
	36 – 48	24	42.9
Father's occupation	Civil servant/ Military/ Police officer	2	3.6
	Private employee	3	5.4
	Self-employed	18	32.1
	Farmer	11	19.6
	Craftsman	11	19.6
Mother's occupation	Laborer	11	19.6
	Civil servant	2	3.6
	Housewife	53	94.6

Characteristics	Categories	n	%
Father's education	Self-employee	1	1.8
	Private employee	6	6.5
	Diploma/ Bachelor/ Master	4	7.1
	Senior high school	23	41.1
	Junior high school	17	30.4
Mother's education	Elementary school	12	21.4
	Diploma/ Bachelor/ Master	9	16.1
	Senior high school	17	30.4
	Junior high school	15	26.8
Household income	Elementary school	15	26.8
	< RMW	50	73.2
	≥ RMW	6	25.0
Total		56	100.0

RMW = Regional minimum wage

Table 2 presents the results of the bivariate analysis using the chi-square test to examine the association between the independent variables and wasting status. A statistically significant association was found between maternal self-efficacy and wasting among toddlers ( $p = 0.034$ ). The highest proportion of wasting was observed among children whose mothers had a moderate level of self-efficacy (37.5%). In contrast, no statistically significant association was identified between feeding patterns and wasting ( $p = 0.187$ ), as all respondents in this study were classified as having appropriate feeding practices.

**Table 2. Association Between Maternal Self-Efficacy, Feeding Patterns, and Wasting Status**

Research Variable	Nutritional Status				Total		P-value
	Normal		Wasting		n	%	
	n	%	n	%			
Maternal Self-Efficacy							
Good	10	17.9	13	23.2	23	41.1	0.034
Moderate	11	19.6	21	37.5	32	57.1	
Poor	1	1.8	0	0.0	1	1.8	
Feeding Pattern							
Good	22	39.3	34	60.7	56	100	0.187
Poor	0	0	0	0	0	0	

## DISCUSSION

The findings of this study demonstrate a statistically significant association between maternal self-efficacy and the occurrence of wasting among toddlers ( $p = 0.034$ ). This result is consistent with behavioral theories suggesting that a mother's belief in her ability to provide adequate nutrition directly influences her caregiving practices (13,14). Mothers with higher self-efficacy tend to be more proactive, persistent when facing feeding difficulties, and more likely to seek information and apply appropriate feeding practices (15). Notably, however, cases of wasting were also observed among mothers with good and moderate levels of self-efficacy. This indicates that confidence alone may be insufficient if it is not supported by accurate nutritional knowledge or is constrained by other barriers, such as limited food access and adverse economic conditions (16–18), which were also prevalent among the respondents in this study.

In contrast, this study did not find a statistically significant relationship between feeding practices and the occurrence of wasting ( $p = 0.187$ ). This finding differs from much of the existing literature, which generally identifies feeding practices as a key determinant of nutritional status. Several factors may explain this discrepancy (19). First, the questionnaire used may not have been sufficiently sensitive to capture variations in the quality and quantity of toddlers' dietary intake in detail. Second, wasting is an acute form of malnutrition that is strongly influenced by infectious diseases, variables that were not assessed in this study (20,21). Third, the relatively small sample size ( $n = 56$ ) may have limited the statistical power to detect an existing association within the population.

This study has several limitations, including its cross-sectional design, which precludes causal inference. In addition, self-reported data on feeding practices and maternal self-efficacy are inherently subject to reporting bias. Despite these limitations, the findings have important implications for public

health practice. Interventions aimed at preventing wasting should not rely solely on one-way nutrition education but also incorporate maternal empowerment strategies to strengthen self-efficacy. Approaches such as cooking classes, peer support groups, and individualized nutrition or lactation counseling can be effective strategies to enhance maternal confidence and capacity, thereby supporting optimal nutritional status in children.

## CONCLUSION

This study concludes that there is a statistically significant association between maternal self-efficacy and the occurrence of wasting among children under five. The relationship between feeding patterns and wasting could not be analyzed due to insufficient variance in the sample. Maternal confidence represents a crucial element that should be prioritized in intervention programs.

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## CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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