



ANALYSIS OF THE RELATIONSHIP BETWEEN COMPLEMENTARY FEEDING (MP-ASI) PRACTICES AND PARENTING STYLES WITH THE NUTRITIONAL STATUS OF CHILDREN AGED 6–24 MONTHS AT POSYANDU

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ABSTRACT	KEYWORDS
Background: The nutritional status of children aged 6–24 months is a critical indicator of growth and development. Inappropriate complementary feeding (MP-ASI) practices and inadequate parenting styles are major contributors to malnutrition. Objective: This study aimed to analyze the relationship between complementary feeding practices and parenting styles with the nutritional status of children aged 6–24 months at Posyandu Desa Tanjungsari, Kecamatan Boyolangu, Tulungagung, in 2024. Method: A cross-sectional design was employed with 85 mothers and children selected through total sampling. Data were collected using structured questionnaires and anthropometric measurements. Bivariate analysis used the Chi-square test. Results: The majority of mothers demonstrated adequate MP-ASI practices (64.7%) and positive parenting styles (58.8%). Most children had normal nutritional status (72.9%). There was a significant relationship between MP-ASI practices and nutritional status ($p=0.008$), and between parenting styles and nutritional status ($p=0.012$). Conclusion: Appropriate MP-ASI practices and positive parenting styles are significantly associated with better nutritional status in children aged 6–24 months. Strengthening education on responsive feeding and parenting should be prioritized in posyandu programs.	MP-ASI, Parenting Style, Nutritional Status, Children 6–24 Months, Posyandu

INTRODUCTION

The nutritional status of children aged 6–24 months is an important indicator in determining the quality of future human resources. This period is known as the *window of opportunity* because brain growth and development occur very rapidly. The World Health Organization (WHO) estimates that 54% of child deaths worldwide are related to poor nutritional status, and in Indonesia nutritional problems are reported to be associated with more than 80% of child deaths (Cendana et al., 2025). The prevalence of stunting in East Java remains relatively high, at 19.2% based on the 2022 Indonesian Nutrition Status Survey (SSGI) (Dinas Kesehatan Provinsi Jawa Timur, 2024). In Tulungagung Regency, the prevalence of stunting in 2024 reached 13.7% based on data

from the Tulungagung Regency Government, although this figure has shown a decline compared with previous years (Pemerintah Kabupaten Tulungagung, 2025). Nevertheless, nutritional deficiencies among children under five in Tulungagung Regency remain a public health challenge that requires serious attention (Jurnal Info Kesehatan, 2023).

Inappropriate complementary feeding (MP-ASI) practices, in terms of timing, frequency, type, and quality, are direct factors contributing to nutritional problems in children aged 6–24 months (Rahmah, 2020). Inadequate complementary feeding can cause macro- and micronutrient deficiencies, which affect children's linear growth and body weight (WHO, 2023). In addition, mothers' parenting practices in feeding also play an important role. Non-responsive parenting, lack of psychosocial stimulation, and poor hygiene practices can worsen children's nutritional status (Hasibuan et al., 2025; Kende et al., 2025).

A review of the literature shows that the relationship between MP-ASI practices and nutritional status is not always consistent. Some studies have found a significant relationship, while others have found no meaningful relationship. A study in the working area of Puskesmas Bumiwonorejo showed no relationship between mothers' knowledge and MP-ASI practices and the nutritional status of children under two, but there was a significant relationship between mothers' parenting style and nutritional status ($p=0.012$) (Kende et al., 2025). In contrast, a study at Puskesmas Ngawen Blora found a significant relationship between complementary feeding and nutritional status ($p=0.013$) (Wahyuni et al., 2025). These differing results indicate the need for further research in specific local contexts.

Tanjungsari Village, Boyolangu District, Tulungagung Regency, is one area with an active posyandu and a child nutrition monitoring program. However, specific data on the relationship between MP-ASI practices and parenting styles with the nutritional status of children aged 6–24 months in this area are not yet available. Therefore, this study aimed to analyze the relationship between complementary feeding practices and parenting styles with the nutritional status of children aged 6–24 months at Posyandu in Tanjungsari Village, Boyolangu District, Tulungagung, in 2024.

METHOD

This study used an observational analytic design with a cross-sectional approach (Hasibuan et al., 2025). This design was chosen because it is suitable for analyzing the relationship between independent and dependent variables at a single point in time. The study was conducted from July to September 2024 at Posyandu in Tanjungsari Village, Boyolangu District, Tulungagung Regency. The study population comprised all mothers with children aged 6–24 months registered

at the posyandu, totaling 85 respondents. The sampling technique used total sampling, so the entire population was used as the study sample (Kende et al., 2025).

Primary data were collected through interviews using a structured questionnaire covering respondent characteristics, MP-ASI practices (timing, frequency, type, and feeding method), and mothers' parenting styles (feeding parenting, psychosocial stimulation, and hygiene). The research instrument was adapted from the Child Feeding Questionnaire (CFQ), which was modified. Secondary data were obtained from the Maternal and Child Health (MCH) handbook and posyandu records (Kemenkes RI, 2022). Anthropometric measurements included body weight and length/height, which were then converted into weight-for-age (WAZ) and length-for-age (LAZ) indices using the WHO 2006 standards (WHO, 2023).

Data analysis was performed univariately and bivariately. Univariate analysis was used to describe the frequency distribution of respondent characteristics, MP-ASI practices, parenting styles, and nutritional status. Bivariate analysis used the Chi-square test to examine the relationship between the independent variables (MP-ASI practices and parenting styles) and the dependent variable (nutritional status). A p-value <0.05 was considered significant (Hasibuan et al., 2025).

RESULT

1. Respondent Characteristics

Table 1. Frequency Distribution of Respondent Characteristics

Characteristic	Frequency (f)	Percentage (%)
Mother's Age		
<20 years	5	5.9
20–35 years	68	80.0
>35 years	12	14.1
Mother's Education		
Elementary/Junior High School	22	25.9
Senior High School/Vocational School	45	52.9
University	18	21.2
Mother's Occupation		
Housewife	52	61.2
Self-employed	15	17.6
Employee	12	14.1
Other	6	7.1
Child's Age		
6–12 months	33	38.8
13–24 months	52	61.2
Child's Sex		
Male	44	51.8
Female	41	48.2

Source: Primary Data, 2024

Based on Table 1, the majority of mothers were aged 20–35 years (80.0%), had a senior high school/vocational school education (52.9%), and worked as housewives (61.2%). Most children were aged 13–24 months (61.2%), with a nearly balanced sex proportion. These characteristics are consistent with the findings of a study at Puskesmas Kuta Alam Banda Aceh, which showed that the majority of mothers of children under five were aged 26–30 years, high school graduates, and housewives (Hasibuan et al., 2025).

2. Frequency Distribution of MP-ASI Practices, Parenting Styles, and Nutritional Status

Table 2. Frequency Distribution of MP-ASI Practices, Parenting Styles, and Nutritional

Variable	Frequency (f)	Percentage (%)
MP-ASI Practices		
Appropriate	55	64.7
Inappropriate	30	35.3
Parenting Style		
Positive	50	58.8
Negative	35	41.2
Nutritional Status (WAZ)		
Good nutrition	62	72.9
Underweight	18	21.2
Severe underweight	5	5.9
Total	85	100

Source: Primary Data, 2024

Table 2 shows that 64.7% of mothers applied appropriate MP-ASI practices, 58.8% applied positive parenting styles, and 72.9% of children had good nutritional status based on the weight-for-age index. This finding is consistent with a study at Puskesmas Ngawen Blora, which reported that the majority of children had good nutritional status (61.6%) (Wahyuni et al., 2025).

3. Relationship Between MP-ASI Practices and Child Nutritional Status

Table 3. Relationship Between MP-ASI Practices and Child Nutritional Status

MP-ASI Practices	Good Nutritional Status	Underweight/Severe Underweight	Total	p-value
Appropriate	46 (83.6%)	9 (16.4%)	55	0.008
Inappropriate	16 (53.3%)	14 (46.7%)	30	
Total	62	23	85	

Source: Primary Data, 2024

The Chi-square test showed a significant relationship between MP-ASI practices and child nutritional status ($p=0.008$). Mothers who applied appropriate MP-ASI practices had a

higher proportion of children with good nutritional status (83.6%) compared with mothers who applied inappropriate MP-ASI practices (53.3%). This finding is consistent with a study at Puskesmas Ngawen Blora, which reported a significant relationship between complementary feeding and nutritional status ($p=0.013$) (Wahyuni et al., 2025).

4. Relationship Between Parenting Style and Child Nutritional Status

Table 4. Relationship Between Parenting Style and Child Nutritional Status

Parenting Style	Good Nutritional Status	Underweight/Severe Underweight	Total	p-value
Positive	42 (84.0%)	8 (16.0%)	50	0.012
Negative	20 (57.1%)	15 (42.9%)	35	
Total	62	23	85	

Source: Primary Data, 2024

Table 4 shows a significant relationship between parenting style and child nutritional status ($p=0.012$). Children raised with a positive parenting style had a higher proportion of good nutritional status (84.0%) compared with children raised with a negative parenting style (57.1%). This finding is consistent with a study at UPTD Puskesmas Bumiwonorejo, which reported a significant relationship between mothers’ parenting style and the nutritional status of children under two ($p=0.012$) (Kende et al., 2025). A study at Puskesmas Kuta Alam Banda Aceh also found a significant relationship between parenting style and nutritional status ($r=0.283$; $p=0.005$) (Hasibuan et al., 2025).

DISCUSSION

The results of this study indicate that appropriate MP-ASI practices are significantly associated with the nutritional status of children aged 6–24 months. This finding is consistent with a study at Puskesmas Ngawen Blora, which found a significant relationship between complementary feeding and nutritional status ($p=0.013$) (Wahyuni et al., 2025). Appropriate MP-ASI practices include introducing complementary feeding starting at 6 months of age, adequate frequency, variety of food types, and textures appropriate for the child’s age. Inaccuracy in any of these aspects can lead to inadequate energy and protein intake, thereby affecting nutritional status (Rahmah, 2020; Wahyuni et al., 2025).

Studies in Indonesia show that children aged 6–11 months have the highest risk of nutrient deficiencies, especially for iron, zinc, calcium, and niacin, caused by a diet dominated by cereals and lacking diversity (Cendana et al., 2025; Jurnal Info Kesehatan, 2023).

Mothers' parenting style was also proven to be significantly associated with child nutritional status in this study. Mothers with a positive parenting style tend to be more responsive to children's hunger and satiety cues, provide adequate psychosocial stimulation, and maintain hygiene in food preparation and serving. This finding is consistent with a study at UPTD Puskesmas Bumiwonorejo, which reported a significant relationship between parenting style and the nutritional status of children under two ($p=0.012$) (Kende et al., 2025). A study at Puskesmas Kuta Alam Banda Aceh also found that parenting style and feeding patterns significantly influenced the nutritional status of children under five ($r=0.283$ and 0.272) (Hasibuan et al., 2025).

Democratic (*authoritative*) parenting has been shown to be the most protective parenting style against child eating problems. Children of parents with a democratic parenting style have the lowest prevalence of eating problems (0.9%), while authoritarian and permissive styles increase the risk of eating problems by 95.0% and 52.5%, respectively (Sari Pediatri, 2025). This indicates that the quality of interaction between mother and child in the context of feeding plays a key role in shaping healthy eating behavior.

The findings of this study have important implications for posyandu programs. Education on appropriate MP-ASI practices and responsive parenting needs to be strengthened, not only limited to nutritional knowledge but also practical skills in preparing and serving food to children (IDAI, 2018; Kemenkes RI, 2022). A local wisdom-based approach, such as the one developed in Tulungagung Regency through the *selametan* tradition, can be integrated into nutrition education programs to increase community acceptance (Pemerintah Kabupaten Tulungagung, 2025). A study at UPTD Puskesmas Bumiwonorejo also emphasized the importance of strengthening or improving mothers' parenting style to support the relationship between knowledge and practices and the nutritional status of children under two (Kende et al., 2025).

The limitations of this study are the cross-sectional design, which cannot prove causality, and the use of questionnaires that depend on respondents' self-reports. Further research with a cohort or intervention design is needed to confirm these findings.

CONCLUSION

There is a significant relationship between complementary feeding (MP-ASI) practices and parenting styles with the nutritional status of children aged 6–24 months at Posyandu in Tanjungsari Village, Boyolangu District, Tulungagung, in 2024. Appropriate MP-ASI practices and positive parenting styles are associated with a higher proportion of good nutritional status. These findings emphasize the importance of interventions that target not only the technical aspects of feeding but also the quality of caregiving in efforts to prevent malnutrition in early childhood.

SUGGESTION

For health workers and posyandu cadres, it is recommended to strengthen education programs on MP-ASI covering timing, frequency, type, and responsive feeding methods. Practical skills training in preparing balanced, nutritious local complementary foods needs to be improved. For mothers and caregivers, it is recommended to apply democratic parenting that is responsive to children's cues and to maintain hygiene in food serving. For future researchers, it is recommended to conduct studies with stronger designs, such as cohort or intervention studies, to confirm the causal relationship between MP-ASI practices, parenting styles, and child nutritional status.

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