

ORIGINAL ARTICLE

The Correlation Between Feeding Patterns and the Incidence of Wasting Among Toddlers in Tempurejo District, Kediri

Nanda Putri Aprilia¹⁾*, Oktovina Rizky Indrasari²⁾
¹⁾ Bachelor of Public Health, Institut Ilmu Kesehatan Bhakti Wiyata, Kediri; nandaputriaprilias02@gmail.com
²⁾ Bachelor of Nutrition, Institut Ilmu Kesehatan Bhakti Wiyata, Kediri; oktovina.idrasari@iik.ac.id
*** Author Correspondence;** E-mail: nandaputriaprilias02@gmail.com
DOI: 10.5281/zenodo.16996019

Received: August 14, 2025

Accepted: August 24, 2025

Published: August 29, 2025

ABSTRACT

Background: Wasting is a form of acute malnutrition measured by the weight-for-height (WFH) or weight-for-length (WFL) index, commonly caused by inadequate feeding patterns. This study aimed to analyze the correlation between feeding patterns and the incidence of wasting in toddlers in Tempurejo District, Kediri. **Methods:** This study used a quantitative approach with a cross-sectional design. The sampling method was non-probability purposive sampling, and there were 178 respondents. The data used were primary data collected through questionnaires, and the data were analyzed using SPSS with a chi-square test. **Results:** Most of the children in this study are boys (55,1%), aged 36 to 59 months (53,9%), and have improper eating habits (57,9%). Wasting was found in 28,1% of the children, with the highest occurrence among boys (58%) and those aged 36 to 59 months (50%). The bivariate analysis showed a correlation between feeding patterns and the occurrence of wasting (p-value 0,017). **Conclusions:** There is a significant association between feeding patterns and the incidence of wasting.

Keywords: Malnutrition, Wasting, Feeding patterns, Toddlers, Cross-sectional study

INTRODUCTION

According to the United Nations Children's Fund (UNICEF) Indonesia, the three main nutrition problems, are undernutrition (such as wasting and stunting), micronutrients deficiencies (like anemia), and overnutrition (such as being overweight and obese) (UNICEF Indonesia, 2023). Wasting is a condition of poor nutrition that is measured using the weight-for-height (WFH) or weight-for-length (WFL) index. In terms of anthropometry, the nutritional status of children aged 0 to 60 months is calculated using z-scores, which are categorized as normal (z-score between -2 SD and +1 SD), underweight (wasted) (z-score between -3 SD and less than -2 SD), and very underweight (severely wasted) (less than -3 SD) (Kemenkes RI, 2020).

Wasting is a major food problem that affects 10,2% of young children in Indonesia. Children who

suffer from wasting are 11,6 times more likely to die compared to children who have good nutrition. Those who survive may face lifelong developmental issues (Badan Perencanaan dan Pembangunan Nasional, 2019). Children with poor nutrition can have long-term effects such as brain development problems, intellectual difficulties, physical growth problems, and body metabolism issues. Other long-term impacts include reduced cognitive ability that affects school performance, weakened immune system leading to more illnesses, and poor work quality, which results in lower economic productivity (Kemenkes RI, 2016).

Based on the most recent data from the Joint Malnutrition Estimates, an estimated 45 million children under the age of five were affected by wasting globally in 2022, accounting for approximately 68% of all children in that age group (JME, 2023). In Indonesia, the 2018 Basic Health Research reported a wasting prevalence of 10,2%

(Rikesdas, 2018) . Findings from the Indonesia Nutrition Status Survey (SSGI) showed an increase in wasting prevalence from 7,1% in 2021 to 7,7% in 2022. In comparison, the prevalence in 2019 was 7,4% (Kementerian Kesehatan RI, 2022).

In the 2022 SSGI report, the prevalence of wasting among children under five in East Java was 7,2% (Kementerian Kesehatan RI, 2022). In Kota Kediri, according to the District Health Office of Kediri 2023 report, the highest number of cases related to nutritional status in 2022 was wasting, with a total prevalence of 9,4%. According to the District Health Office of Kediri 2023 data, it was found that the highest cases of wasting occurred for two consecutive years in the Ngletih Community Health Center, with a percentage of 15,8% in 2022 and 11,4% in 2023. Meanwhile, the health centers with the lowest cases of wasting in Kota Kediri for two consecutive years were the Kota Wilayah Selatan Community Health Center, with a percentage of 6,5% in 2022 and 1,9% in 2023 (Profil PKM Ngletih, 2024).

Data from the Ngletih Community Center indicate that, between 2021 and 2023, there was a significant increase in wasting cases among toddlers across four rural areas: Bawang, Ngletih, Tempurejo, and Ketami. Tempurejo recorded the highest number of wasted toddlers, rising from 85 cases in 2021 to 509 cases in 2023, followed closely by Bawang, which reported 469 cases in 2023. In contrast, Ngletih had the fewest cases, although it still experienced an increase from 13 cases in 2021 to 110 cases in 2023 (Profil PKM Ngletih, 2024).

Factors that lead to wasting have been explained by the United Nations International Children's Emergency Fund (UNICEF) and are recognized globally. First, the direct causes include food availability, feeding practices, illnesses, and the interaction among these elements. Second, the indirect causes involve household food security, caregiving practices, access to healthcare services, and environmental conditions (UNICEF, 2020).

Results from the researcher's interview with the nutrition program manager at the Ngletih Community Health Center in Kediri on Thursday, October 24, 2024, indicate that the causes of wasting are closely related to parental feeding

practices. The types of food provided are not sufficiently varied, and both the quantity and frequency of meals are inadequate, leading to toddlers' nutritional needs not being met. In addition, mealtimes are inconsistent. These issues are attributed to the family's financial constraints and the toddlers selective eating behaviors (Profil PKM Ngletih, 2024).

Feeding patterns are also a direct contributing factor to the incidence of wasting (UNICEF, 2020). Feeding patterns encompass meal frequency, types of food, and portion sizes. A balanced dietary pattern should be introduced early and practiced consistently to establish lifelong habits of consuming nutritious and well-balanced meals (Handayani & Thomy, 2018). Research by Sitoayu et al., (2021), also reported a significant association between meal frequency, portion size, and food texture with wasting status. Daily meal frequency typically includes three main meals, scheduled as breakfast before 09:00, lunch around 12:00–13:00, and dinner 18:00–19:00.

Additionally, it is recommended to consume two snacks per day one between breakfast and lunch, and another between lunch and dinner (Ramadani, 2017). In developing healthy eating patterns among children, it is important to create a comfortable eating environment, such as providing meals that are specially prepared and easily accessible for the child. This can increase appetite and encourage children to enjoy the food served (Vera, 2020).

This study was conducted in Tempurejo Subdistrict because it had the highest and continuously increasing prevalence of wasting from 2021 to 2023 among all areas within the working region of the Ngletih Community Health Center. Based on this condition, the researcher was interested in examining the correlation between feeding patterns and the incidence of wasting among toddlers as an effort to control wasting, particularly in Tempurejo, which falls under the jurisdiction of the Ngletih Community Health Center in Kediri City. Therefore, this study is entitled "The Correlation Feeding Patterns and the Incidence of Wasting among Toddlers in Tempurejo District, Kediri".

METHODS

This study employed a quantitative cross-sectional design to analyze the correlation between feeding patterns and wasting among toddlers in Tempurejo District, Kediri. The primary variable in this study is the incidence of wasting, measured using the weight-for-height (WFH) or weight-for-length (WFL) index. The influencing variable is exclusive breastfeeding. The research was conducted in Tempurejo Sub-district, part of the catchment area of the Ngletih community health center in Kediri City, from October 2024 to May 2025. Sampling used a non-probability purposive technique. The study population included all toddlers aged 12–59 months in Tempurejo Sub-district, totaling 320. The sample size was 178, determined using the Slovin formula.

The inclusion criteria in this study were toddlers aged 12–59 months who resided in Tempurejo Sub-district, and whose parents or guardians were willing to participate and had signed the informed consent form. Meanwhile, the exclusion criteria were toddlers with physical or congenital disabilities and those whose Maternal and Child Health (KIA) book records were incomplete.

RESULTS AND DISCUSSION

The frequency distribution based on the gender and age of toddlers in Tempurejo Sub-district, Kediri City, in this study is presented in Table 1 below.

Table 1. Frequency Distribution of Toddler Characteristics Based on Age in Tempurejo District, Kediri

Characteristics of Toddler	Wasting Classification					
	n		Wasted		Not Wasted	
	f	%	f	%	F	%
Age Range (In Months)						
12 – 23 Months	38	21.3	12	24	26	20.3
24 – 35 Months	44	24.7	13	26	31	24.2
36 – 59 Months	96	53.9	25	50	71	55.5
Total	178	100	50	100	128	100

Source: Primary Data, 2025

The frequency distribution of toddler characteristics by age in Tempurejo Subdistrict, Kediri City, as presented in Table 1, shows that the majority of toddlers were in the 36–59 month age group, totaling 96 children (53.9%). This age group also had the highest prevalence of wasting, with 25 cases (50%).

Based on Table 2, the frequency distribution of toddler characteristics according to wasting status and feeding patterns in Tempurejo Sub-district, Kediri City shows that a total of 50 toddlers (28.1%) experienced wasting. In addition, the majority of toddlers in this study were classified as having an inappropriate feeding pattern, with 103 toddlers (57.9%).

Based on Table 3, the correlation analysis using the chi-square test showed a p-value of 0.017,

which is less than $\alpha = 0.05$, indicating that the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted. This indicates that there is a statistically significant correlation between feeding patterns and the incidence of wasting among toddlers in Tempurejo Sub-district, Kediri. The Prevalence Ratio (PR) of 2.341 indicates that toddlers with inappropriate feeding patterns have a 2.341 times greater risk of experiencing wasting compared to those with appropriate feeding patterns.

Characteristics of Toddlers

The majority of toddlers in this study were in the 36–59 months age group, totaling 96 children (53.9%). In addition, the highest proportion of wasting cases was also found in this age group, with

25 children (50%) affected. This is consistent with the findings of Syarfaini et al., (2022), who reported that the highest incidence of wasting occurred among children aged 24–59 months. During the preschool stage, children begin to act as active consumers, showing a stronger tendency to select specific types of food. Insan et al., (2023), also revealed that preschool-aged toddlers often reject or are willing to consume only certain types of food.

Nutritional status assessment should therefore be aligned with appropriate dietary patterns for this age group, as nutrient requirements increase due to rapid growth and high levels of physical activity (Hardiningsih et al., 2020). The role of mothers or caregivers is crucial in ensuring a varied and appropriately portioned diet. Optimal nutritional intake supports age-appropriate growth, and food portions should refer to the Guidelines for Balanced Nutrition outlined in the Regulation of the Minister of Health of the Republic of Indonesia No.41 of 2014.

Table 2. Frequency Distribution of Toddler Characteristics Based on Wasting Status and Feeding Patterns in Tempurejo District, Kediri

Characteristics of Toddler	n	%
Incidence of Wasting		
Wasted	50	28.1
Not Wasted	128	71.9
Total	178	100
Feeding Patterns		
Inappropriate Feeding Pattern	103	57.9
Appropriate Feeding Pattern	75	42.1
Total	178	100

Source: Primary Data, 2025

The Incidence of Wasting

The identification of wasting incidence in this study, conducted in Tempurejo, within the catchment area of the Ngletih Community Health Center, showed that out of 178 toddlers who participated as respondents, 50 toddlers (28.1%) were found to experience wasting, while the remaining 128 toddlers (71.9%) were not. This condition indicates that the problem of wasting remains relatively high in the area. According to the Indonesian Ministry of Health 2020, wasting is a

form of malnutrition that reflects a child's weight being too low for their height. Wasting status is measured using the z-score, with a score ranging from -3 SD to < -2 SD (Kemenkes RI, 2020).

Bahar et al., (2024), define wasting as a condition characterized by rapid weight loss or the failure to gain weight. In other words, wasting occurs when a child loses weight quickly or does not gain weight as expected. This condition is usually caused by multiple interrelated factors. The immediate causes include insufficient food intake, particularly poor feeding practices, and infectious diseases. Indirect causes involve household food availability, child care practices, access to health services, and environmental conditions (UNICEF, 2020).

UNICEF Indonesia (2023), also states that the absence of exclusive breastfeeding for infants under six months of age is one of the contributing factors to wasting. This implies that addressing wasting cannot rely solely on medical approaches, but must also take into account social and economic aspects that influence family life.

According to UNICEF Indonesia (2023), children experiencing wasting have severely weakened immune systems, making them more vulnerable to infections and at risk of long-term growth and developmental issues. In severe cases of wasting, particularly in children with severe acute malnutrition, the risk of death can be up to 12 times higher than in well-nourished children. This serious issue demonstrates that wasting is not only a current health problem but also a threat to the future quality of human resources. Therefore, addressing it must be a cross-sectoral priority to ensure more effective prevention and treatment efforts.

Feeding Patterns of Toddlers

In this study, the majority of toddlers (57.9% or 103 toddlers) were categorized as having inappropriate feeding patterns. This condition indicates that feeding problems among toddlers are quite prevalent in the Tempurejo area and reflect ongoing challenges in meeting toddlers' nutritional needs. This is supported by findings showing that most toddlers in Tempurejo Sub-

district, under the catchment area of Ngletih Community Health Center, also have not received appropriate feeding practices. In the context of this study, feeding patterns refer to the overall feeding practices, which include the appropriateness of food types, meal schedules, and the quantity of food, viewed holistically as a single unit. This aligns with the study by Idris (2022), which emphasizes that the assessment of feeding patterns is based on eight indicators, including the toddler's age, portion size and texture of main meals, types and frequency of main meals, as well as aspects related to snacks, including their types and frequency.

In terms of food type, this study found that food variety remains an issue, as several toddlers were still found to consume a limited range of foods. Problems related to feeding patterns in toddlers may be influenced by various factors, one of which is picky eating habits. Several toddlers in the study area were reluctant to consume certain foods such as fruits, vegetables, eggs, and meat on a daily basis. This finding is consistent with the results of Putri et al., (2024), which showed that many toddlers tend to prefer only a few favorite foods and avoid certain others. In addition, the factor known as "GTM" (Gerakan Tutup Mulut or refusal to eat) contributes to the lack of food variety. Maulidya & Muniroh, (2020), mentioned that the causes of GTM can be internal, such as illness, infections, or teething, or external, related to feeding practices including food types or textures that are not preferred by the child.

Economic limitations among parents also contribute to toddlers not receiving a balanced diet on a daily basis. A study by Kahar (2023), revealed that household income influences toddlers' dietary patterns, where an increase in income is associated with improved provision of animal-based foods and daily food quality. Novfrida et al., (2022), further added that low household income leads to irregular consumption of vegetables and fruits. In other words, a household's economic condition also determines the types of food provided to toddlers.

In terms of meal schedules, most toddlers do not follow a regular and timely eating routine. This condition is related to the fact that many mothers are employed, causing children to eat late or take

longer to finish their meals. Mardiati, (2024), stated that toddlers of working mothers tend to have irregular mealtimes. Similarly, Safitri et al., (2021), reported that private-sector working mothers often fail to monitor their toddlers' eating schedules and meal frequency. These findings are in line with Aulia Jatmiko (2022), who found that working mothers have limited time with their children, which negatively impacts their attention to nutritional intake. Additionally, Putri and Humayrah (2024), reported that toddlers with working mothers spend approximately eight minutes longer eating than those with non-working mothers. These findings consistently support the statement that delayed or irregular mealtimes, as well as prolonged feeding durations, are more frequently experienced by children of working mothers.

Another contributing factor to irregular mealtime schedules is that many toddlers take more than 10 minutes to finish eating because they are often distracted by playing or watching videos. When such distractions are not provided, they tend to exhibit GTM. Maulidya & Muniroh, (2020), reported that approximately 75% of toddlers experience GTM, which is significantly associated with maternal feeding behaviors, such as using videos as distractions or improper child positioning during meals. GTM is characterized by food refusal through mouth closure or food retention, and commonly occurs among infants and toddlers (Maulidya & Muniroh, 2020).

This behavior typically arises during early toddlerhood (6 to 9 months), a critical period for the gradual introduction of solid foods and the development of eating skills (Maulidya & Muniroh, 2020). Nyanyi et al., (2019), further explained that during the preschool stage (ages 3 to 5 years), children act as active food consumers who are able to accept or reject certain types of food. Failure to properly introduce complementary feeding during infancy, if continued, may increase the risk of wasting between the ages of 36 and 59 months. This finding is consistent with the current study, which observed that most toddlers experiencing wasting were within that age range.

Another finding related to mealtime schedule issues observed in the field is the inaccuracy in the

timing of the introduction of feeding practices. Early initiation of feeding patterns is associated with a higher risk of nutritional problems. Masuke et al., (2021), reported that the introduction of complementary feeding (MPASI) to infants aged 0–1 month increases the risk of wasting by 2.86 times. Theodora et al., (2021) emphasized that timely initiation of MPASI is associated with a higher proportion of children with good nutritional status compared to early MPASI (<6 months), while untimely MPASI is associated with a higher proportion of children with poor nutritional status compared to those who received MPASI on time.

Furthermore, in terms of meal frequency or quantity, several toddlers were found to have unmet daily feeding frequencies. This issue is influenced by the family's economic condition. Kahar et al., (2023), reported that household income affects toddlers' dietary patterns; when income increases, the availability of side dishes and the overall quality of daily meals improves, which in turn ensures that the amount of food provided to the child is sufficient. In other words, household economic conditions also determine the amount of food given to the child.

In various studies, portion size remains a major concern. For example, the serving of rice is often disproportionate, making it difficult or unappealing for some children to finish. To address this, a variety of food ingredients are introduced, such as substituting rice with noodles, vermicelli, bread, potatoes, and others (Wahyuni et al., 2023). Children also tend to only sample snacks, fruit, or soft rice porridge without finishing the full portion (Dahlan et al., 2023). Therefore, mothers need to vary the menu and provide balanced portions to their children.

Furthermore, GTM behavior contributes to a decline in meal frequency and food intake among toddlers, as they often reject food and sometimes consume only breast milk and formula since the early phase of complementary feeding at six months of age (Dahlan et al., 2023). Improving children's eating habits requires that parents or caregivers possess adequate nutritional knowledge to ensure proper feeding practices and sufficient calorie intake. In addition, parents should

implement strategies such as mealtime rules, reward systems, and early introduction of healthy foods (Syahroni et al., 2021).

Wulandari (2020), emphasized the importance of regular eating patterns. Feeding should occur three times daily at consistent times, such as 8 a.m., 12 p.m., and 6 p.m., with an ideal frequency to support toddler growth. Undernourished toddlers are also more vulnerable to infections, as poor nutritional status can reduce appetite and worsen feeding patterns. When toddlers' dietary needs are not adequately met, it can impair growth, leading to thinness, stunting, and an increased risk of malnutrition (Wulandari, 2020). Continued nutritional deficiencies may lead to long-term negative impacts on growth and development. On the other hand, establishing healthy and balanced eating habits from early life supports optimal development and builds a strong foundation for future life stages (Putri et al., 2024). Thus, these findings highlight the need for comprehensive feeding education for parents to help establish consistent and age-appropriate eating patterns in children.

Correlation Between Feeding Patterns and the Incidence of Wasting

Based on the results of the study involving 178 respondents, it was found that inappropriate feeding patterns were more commonly observed among toddlers without wasting (67 respondents or 65%) compared to those with wasting (36 respondents or 35%). Bivariate analysis showed a p-value of 0,017, which is lower than the significance level of $\alpha = 0,05$, indicating that the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted. This suggests a significant correlation between feeding patterns and the incidence of wasting among toddlers in Tempurejo Subdistrict, Kediri City. The Prevalence Ratio (PR) of 2,341 indicates that toddlers with inappropriate feeding patterns are 2,341 times more likely to experience wasting compared to those with appropriate feeding patterns.

Eating patterns reflect daily habits in selecting and consuming food, which are influenced by economic, social, and cultural

conditions. Household income affects the ability to provide nutritious side dishes; thus, increased income is generally followed by improvements in both the quality and quantity of toddlers' nutritional intake (Kahar et al., 2023). UNICEF (2020), emphasized that inadequate dietary

patterns are a direct contributing factor to the incidence of wasting. Salsabila (2025), also highlighted that the early adoption of healthy eating habits lays a foundation for balanced nutrition that supports children's growth and development in the future.

Table 3. Analysis of the Correlation Between Feeding Patterns and the Incidence of Wasting

Variable	Wasting Classification				Total		p value	PR (CI 95%)
	Wasted		Not Wasted		f	%		
	f	%	f	%				
Feeding Patterns								
Inappropriate Feeding Pattern	36	35	67	65	103	100	0.017	2.341 (1.153 – 4.753)
Appropriate Feeding Pattern	14	18.7	61	81.3	75	100		
Total	50	28.1	128	71.9	178	100		

Source: Primary Data, 2025

The findings of this study are consistent with those of Wulandari (2020), who reported a significant correlation between feeding patterns and wasting incidence, with a p-value of 0.026 (< 0,05). Additionally, the Risk Prevalence (RP) value of 0,3 indicated that inappropriate feeding patterns carried a 0,3 times greater risk of causing wasting. A similar study by Sitoayu et al., (2021), further supports these findings by demonstrating a significant correlation between the frequency, quantity, and texture of feeding and wasting status among toddlers.

Conditions in the study area indicate that feeding pattern problems among toddlers are relatively common in the Tempurejo area. This issue is likely due to feeding practices that do not yet adhere to the principles of balanced nutrition as outlined in the Regulation of the Minister of Health of the Republic of Indonesia No. 41 of 2014, which emphasizes the importance of a diverse and proportionate diet. In practice, complementary snacks are only given once or twice between main meals. Meal portion refers to the amount of food consumed at each eating occasion (Idris, 2022).

Feeding frequency is considered adequate when it includes three main meals per day, or at least two main meals accompanied by one snack. In contrast, consuming only two or fewer main meals per day is classified as low frequency (Elvareta, 2023).

In addition to considering feeding patterns, the timing of feeding introduction must also be taken into account. Idris (2022), stated that the assessment of feeding patterns depends on several indicators, one of which is the child's age. Fiana et al., (2024), emphasized that complementary feeding (CF) should be introduced in a timely manner, specifically around the age of six months.

Early introduction of complementary feeding (before six months of age) can reduce breast milk intake and inhibit maternal milk production, as "the infant's digestive system is not yet fully developed," and it increases the risk of infections or diarrhea. Conversely, delaying the introduction of complementary feeding beyond six months of age may result in energy and nutrient deficiencies, hinder growth, and increase the risk of malnutrition or micronutrient deficiencies. Therefore, exclusive breastfeeding up to six months of age, followed by the provision of complementary feeding from 6 to 24 months, is a key strategy in preventing infections and undernutrition (Fiana, et al., 2024).

This is consistent with the view of Sambo et al., (2020), who emphasized that regular and appropriate feeding practices can contribute positively to a child's nutritional status. In contrast, when toddlers' feeding patterns are inadequate, their physical growth may be impaired, which can manifest as being underweight, stunted, or at risk of severe malnutrition (Idris, 2022).

Another issue identified from respondents' statements regarding feeding patterns was GTM (Gerakan Tutup Mulut), or "mouth-closing behavior," commonly observed among toddlers. GTM refers to the refusal to eat by closing the mouth or holding food in the mouth, which frequently occurs in infants and toddlers (Maulidya & Muniroh, 2020).

The study by Maulidya and Muniroh (2020) reported that approximately 75% of toddlers experienced GTM, and maternal feeding behaviors, such as the use of distractions like watching videos during mealtime or improper child positioning, were significantly associated with the occurrence of GTM. The causes of GTM may be internal (for example, the child being ill, having an infection, or teething) or external, particularly those related to feeding patterns such as food types or textures that are not preferred by the child. These findings are consistent with the study by Idris, (2022), which emphasized that the assessment of feeding patterns involves eight indicators, including the child's age, portion size and texture of main meals, type and frequency of main meals, as well as snack-related aspects such as the type and frequency of snacks.

In addition, as a consequence, children who frequently experience GTM tend to reject various types of food, resulting in inadequate daily energy and nutrient intake. If left unaddressed over time, this condition may increase the risk of wasting. This statement is supported by a study by Maulidya & Muniroh, (2020), which reported that prolonged GTM leads to nutritional intake that does not meet the child's needs, impaired growth and development, and poor nutritional status (malnutrition). Hafiza et al., (2025), also found that GTM is closely related to nutritional status. Inappropriate complementary feeding practices can trigger GTM, reduce food intake, and negatively affect a child's nutritional status.

Furthermore, feeding pattern problems among toddlers may also be influenced by various factors, including children's picky eating habits and parents' economic limitations in meeting the family's nutritional needs. These findings are consistent with the results of a study by Putri et al.,

(2024), which showed that many toddlers only preferred a few favorite foods and tended to avoid certain types of food. Kahar (2023), also found that household income influences toddlers' eating patterns; when income increases, the provision of side dishes and the quality of daily meals also improves. In other words, household economic conditions also determine the type and quantity of food provided to children.

The study by Salsabila (2025), showed that parents must adopt various strategies, such as presenting food in an appealing way to make children more interested in eating, thereby helping meet their nutritional needs. In addition, when developing healthy eating habits in children, mothers must be able to enforce meal-time discipline, such as consistently feeding the child at appropriate times. These creative strategies highlight the importance of active parental involvement in providing varied and attractive menus, as well as establishing scheduled mealtimes to support optimal nutritional intake among toddlers.

CONCLUSIONS

Based on the results and discussion, and in reference to the research objectives, it can be concluded that most toddlers who experienced wasting were in the 36–59 month age group, accounting for 50% of the cases. The overall prevalence of wasting among toddlers in this study was 28,1%. In addition, the majority of toddlers (57,9%) were categorized as having inappropriate feeding patterns. A significant correlation was found between feeding patterns and the incidence of wasting in Tempurejo Subdistrict, Kediri City. Toddlers with inappropriate feeding patterns were 2,341 times more likely to experience wasting compared to those with appropriate feeding patterns.

ACKNOWLEDGMENTS

I would like to express my sincere gratitude to the Ngletih Community Health Center, the Kediri District Health Office, the Tempurejo Sub-district,

and all related institutions for their valuable support in providing the necessary data for the completion of this thesis, as well as for their willingness to serve as the research site.

REFERENCES

- Aulia Jatmiko, S. (2022) 'Pola Asuh Ibu Yang Bekerja Dalam Pemberian Asupan Makanan Terhadap Pertumbuhan Anak Usia Prasekolah', *JHCN Journal of Health and Cardiovascular Nursing*, 2, pp. 62–70. Available at: <https://doi.org/10.36082/jhcn.v2i2.881>.
- Badan Perencanaan dan Pembangunan Nasional (2019) *Pembangunan gizi di Indonesia*. Jakarta: Direktorat Kesehatan dan Gizi Masyarakat.
- Bahar, M.A. et al. (2024) 'Gambaran Nilai Utilitas Kesehatan Anak dengan Malnutrisi: Studi pada Kasus Stunting, Wasting, dan Underweight di Indonesia', 10(2), pp. 610–617.
- Dahlan, A.K., Umrah, A.S. and Juliani, R. (2023) 'Implikasi Konseling Behaviour (Perilaku) Terhadap Peningkatan Asupan Makronutrien Pada Balita Stunting', *Jurnal Voice of Midwifery*, 13(2), pp. 93–100.
- Elvareta, S.W. (2023) 'Hubungan Tingkat Pendidikan Ibu, Pola Makan Ibu, Dan Penerapan Feeding Rules Terhadap Kejadian GTM (Gerakan Tutup Mulut) Pada Balita Usia 6-59 Bulan Di Posyandu Rowosari', *At-Tawassuth: Jurnal Ekonomi Islam*, VIII(I), 1–19.
- Fiana, Marista, Komariah, ade, Subroto, Desty E., Ningsih, Ratna, Sa'adah, Neneng N. S., Masnawati, N. (2024) 'Makanan Pendamping Asi (MP-ASI) Dalam Priode Emas Pertumbuhan Dan Perkembangan Balita', *Jurnal Pengabdian Kepada Masyarakat (JPKM) - Aphelion*, 4(September), pp. 171–178. Available at: <https://jurnal.globalhealthsciencegroup.com/index.php/JPM/article/view/2494>.
- Hafiza, H. et al. (2025) 'Hubungan Karakteristik dan Perilaku Ibu dalam Pemberian MP-ASI dengan Kejadian Gerakan Tutup Mulut (GTM) serta Status Gizi Bayi Usia 12-24 Bulan', pp. 975–982.
- Handayani, M. and Thomy, T.A. (2018) 'Hubungan Frekuensi, Jenis Dan Porsi Makan Dengan Kejadian Gastritis Pada Remaja', *Jurnal Kesehatan Saelmakers PERDANA*, 1(2), p. 40. Available at: <https://doi.org/10.32524/jksp.v1i2.379>.
- Hardiningsih, H. et al. (2020) 'Hubungan Pola Pemberian Makanan Pendamping Asi Dengan Berat Badan Bayi Usia 6-12 Bulan Di Kelurahan Wonorejo Kabupaten Karanganyar', *Placentum: Jurnal Ilmiah Kesehatan dan Aplikasinya*, 8(1), p. 48. Available at: <https://doi.org/10.20961/placentum.v8i1.38951>.
- Idris, N.H. (2022) 'Gambaran Pola Pemberian Makan dan Tingkat Pendidikan Orang Tua pada Balita Stunting Usia 24-59 Bulan di Wilayah Kerja Puskesmas Kahu Kabupaten Bone', *Universitas Hasanduin Makassar*, pp. 1–29.
- Insan, M., Hakiki, K. and Muniroh, L. (2023) 'Hubungan Perilaku Picky Eater Dengan Status Gizi Pada', *Jurnal Psikologi*, 4(September), pp. 3183–3193.
- JME (2023) 'Levels and trends in child malnutrition: UNICEF/WHO/World Bank Group Joint Child Malnutrition Estimates: Key Findings of the 2023 Edition', *UNICEF, World Health Organization and World Bank Group*, 24(2), p. 32.
- Kahar, A.A. et al. (2023) 'Hubungan Sosial Ekonomi Dengan Pola Pemberian Makan Pada Balita Stunting Usia 24-59 Bulan di Wilayah Kerja Puskesmas Malimongan Baru di Kota Makassar', *JGMI: The Journal of Indonesian Community Nutrition*, 12(1), pp. 13–26.
- Kahar, A.A. (2023) 'Hubungan Sosial Ekonomi dengan Pola Pemberian Makan pada Balita Stunting Usia 24-59 Bulan di Wilayah Kerja Puskesmas Malimongan Baru Kota Makassar', *Program Studi Ilmu Gizi Fakultas Kesehatan Masyarakat Universitas Hasanudin Makassar* [Preprint].
- Kemenkes RI (2016) *Profil Kesehatan Indonesia Tahun 2015*. Jakarta: Kementerian Kesehatan Republik Indonesia.
- Kemenkes RI (2020) *Peraturan Menteri Kesehatan Republik Indonesia Nomor 2 Tahun 2020*

- Tentang Standar Antropometri Anak.*
- Kementerian Kesehatan RI (2022) 'Buku Saku Hasil Studi Status Gizi Indonesia (SSGI) Tingkat Nasional, Provinsi, dan Kabupaten/Kota Tahun 2022'.
- M, Sambo, F, Ciuantasi, M. (2020) 'Hubungan pola makan dengan status gizi pada anak usia prasekolah', *Jurnal Ilmiah Kesehatan Sandi Husada*, 11(1), pp. 423-429.
- Mardiati, H. (2024) 'Gambaran pola asuh dan status gizi balita pada ibu bekerja dan tidak bekerja di Padang (Tesis).', *Universitas Sriwijaya* [Preprint].
- Masuke, R. et al. (2021) 'Effect of inappropriate complementary feeding practices on the nutritional status of children aged 6-24 months in urban Moshi , Northern Tanzania: Cohort study', pp. 1-16. Available at: <https://doi.org/10.1371/journal.pone.0250562>.
- Maulidya, Hikmah, Muniroh, L. (2020) 'Hubungan Perilaku Ibu dalam Pemberian MP-ASI Dengan Kejadian Gerakan Tutup Mulut dan Status Gizi pada Baduta', *Media Gizi Kemas*, 19, pp. 23-28.
- Novfrida, Y. et al. (2022) 'Hubungan Pendapatan Keluarga dan Pola Makan dengan Kejadian Underweight Pada Balita', 1, pp. 1-7.
- Profil PKM Ngletih (2024) *Profil Puskesmas Perawatan Ngletih Kota Kediri*. Kediri.
- Putri, RH, A., Simanjuntak, B.Y. and Sari, A.P. (2024) 'Pola Konsumsi Makan Dan Kejadian Underweight Balita Di Wilayah Kerja Puskesmas Anggut Atas Kota Bengkulu', *Gema Kesehatan*, 16(1), pp. 15-22. Available at: <https://doi.org/10.47539/gk.v16i1.436>.
- Ramadani, A. (2017) 'Hubungan Jenis, Jumlah dan Frekuensi Makan dengan Pola Buang Air Besar dan Keluhan Pencernaan pada Mahasiswa Muslim Saat Puasa Ramadhan', *Skripsi Universitas Airlangga*, pp. 1-110. Available at: <http://repository.unair.ac.id>.
- Rikesdas (2018) *Hasil Utama Rikesdas 2018*. Jakarta.
- Safitri, Febi Olivia, Syalfina, Agustina Dwi, Syurandhari, D.H. (2021) 'Pola Asuh, Makan Dan Sanitasi Pada Kejadian Stunting Di Desa Rebalas Wilayah Puskesmas Grati Kabupaten Pasuruan', *Medica Majapahit*, 6(2), pp. 59-77.
- Salsabila, H.F. (2025) *Strategi Orang Tua Dalam Membiasakan Makanan Sehat Pada Anak Usia 1-3 Tahun Di Kecamatan Dukuhturi Kabupaten Tegal*. Program Studi Pendidikan Islam Anak Usia Dini Fakultas Ilmu Tarbiyah Dan Keguruan Universitas Islam Negeri Syarif Hidayatullah.
- Sitoayu, L. et al. (2021) 'Hubungan Riwayat Pemberian Makan Pada Bayi Anak (PMBA) Dan Penyakit Infeksi Dengan Status Gizi Kurang (Wasting) Pada Balita Usia 6-24 Bulan Di Puskesmas Poris Plawad The Correlation of Infants ' Feeding (PMBA) History and Infectious Diseases with Ma', 28(2), pp. 1-11.
- Syahroni, M.H.A. et al. (2021) 'Faktor-faktor yang mempengaruhi kebiasaan makan', *Jurnal Tata Boga*, 10(1), pp. 12-22.
- Syarfaini, S. et al. (2022) 'Hubungan Asupan Zat Gizi Makro Terhadap Kejadian Wasting pada Balita Usia 0-59 Bulan di Kecamatan Polombangkeng Utara Kabupaten Takalar Tahun 2022', *Ghidza: Jurnal Gizi dan Kesehatan*, 6(2), pp. 128-138. Available at: <https://doi.org/10.22487/ghidza.v6i2.524>.
- Theodora, M. et al. (2021) 'Hubungan Pola Pemberian MPASI dengan Status Gizi Anak Usia 6-24 Bulan di Kabupaten Pangkep', 1(2), pp. 103-110.
- UNICEF (2020) *Perubahan iklim dan gizi di indonesia*. Jakarta. Indonesia: United Nations Children's Fund.
- UNICEF Indonesia (2023a) *Faktor-faktor penyebab wasting (gizi kurang & gizi buruk) pada anak yang penting untuk diketahui dan dipahami: Jangan Disepelekan, Ini Hal-Hal yang Bisa Menyebabkan Wasting*. UNICEF Indonesia. Available at: <https://www.unicef.org/indonesia/id/gizi/artikel/faktor-penyebab-wasting>.
- UNICEF Indonesia (2023b) *Selain Stunting, Wasting Juga Salah Satu Bentuk Masalah Gizi Anak yang Perlu Diwaspadai*.
- UNICEF Indonesia (2023c) *Wasting (Gizi Kurang dan Gizi Buruk) dan Dampaknya pada Anak*. Available at: <https://www.unicef.org/indonesia/id/gizi/artikel>

kel/dampak-wasting-pada-anak#:~:text=Mari
bawa anak balita kita,obati wasting%2C biar
ga stunting.

Vera, riska destia (2020) 'Pengaruh media video
tentang jajanan sehat terhadap pengetahuan
sikap dan perilaku anak sd dalam memilih
makanan sehat di lingkungan sekolah',
Skripsi, (February), p. 2.

Wahyuni *et al.* (2023) 'Analisis faktor risiko langsung
asupan nutrisi pada anak dengan stunting di

desa keliling benteng ulu kabupaten banjar
kalimantan selatan', pp. 212–221. Available at:
<https://lummies.ulm.ac.id/ojs3/index.php/proceeding/issue/view/1>.

Wulandari, Y. (2020) 'Hubungan Antara Personal
Hygiene, Sanitasi Lingkungan, Dan Pola
Pemberian Makan Dengan Kejadian Wasting
Di Desa Mojayung Kecamatan Wungu
Kabupaten Madiun', *Stikes Bhakti Husada
Mulia Madiun*, p. 171.