

# The Role of Parents in Overcoming Feeding Refusal and Preventing Iron Deficiency Anemia in Toddlers

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## ABSTRACT

Feeding refusal, commonly observed in infants, particularly during their first year of life, is when infants experience difficulty eating or refuse to eat. This can lead to nutritional deficiencies or malnutrition. Additionally, feeding refusal can be triggered by the inappropriate introduction of complementary foods regarding composition, texture, and feeding methods. Iron deficiency is the most common nutritional problem worldwide, especially in developing countries. Anemia in children is a hemoglobin level significantly below the average for their age. Based on surveys conducted by the Ministry of Health and several health reports, the prevalence of anemia in toddlers ranges from 40% to 50%. The results of a preliminary study conducted at Brondong Health Center, Brondong District, Lamongan Regency, from May to July 2024, found that 25% of toddlers exhibited feeding refusal. Hemoglobin tests on these 11 toddlers revealed an average below 11 gr/dl. The research aims to determine the role of parents in overcoming food refusal and preventing iron deficiency anemia in toddlers. This study can use a quantitative approach with an observational analytical design at Brondong Health Center, Brondong District, Lamongan Regency. The population is toddlers aged 6-24 months with feeding refusal problems and their parents/mothers, with a sample size of 20 respondents. The measuring instrument used in this study is a questionnaire using the KAP scale, and the test used is the Chi-Square test. From this test, it was concluded that the p-value is 0.000, indicating the role of parents in addressing feeding refusal and anemia in toddlers at Brondong Health Center, Brondong District, Lamongan Regency.

## Introduction

Feeding refusal often occurs in children, especially during the first year of life, when a child experiences difficulties eating or refuses to eat. This can lead to nutritional deficiencies or malnutrition. In addition, feeding refusal can also be triggered by the inappropriate provision of complementary foods to breast milk, whether in terms of composition, texture, or delivery method. If food is inadequate, it can hinder a child from obtaining the necessary nutrients for optimal growth (Chumairoh & Ika Suryaningsih, 2021).

Eating problems in children have several terms, one is picky eating, where children only choose certain foods they like. This is a normal condition that is usually temporary. Feeding refusal is another term that describes difficulties or refusal to eat, often occurring in children during their first year of life. The critical period for gradually introducing solid foods is between the ages of 6 to 9 months, which is also essential for developing the child's psychomotor skills. If this stage is not managed well, eating problems can occur in toddlerhood (Maulidya & Muniroh, 2020).

Iron deficiency is the most common nutritional problem in the world, especially in developing countries. Children deficient in iron often experience anemia, a condition where the hemoglobin level in the blood is lower than normal. Anemia in children is defined as a hemoglobin level significantly below the average for their age. Iron deficiency can lead to various health issues in children, including disruptions in cognitive abilities, emotions, and adaptability. Children deficient in iron may also experience speaking, moving, and other physical development delays. In addition, iron deficiency can weaken a child's immune system, making them more susceptible to illness (Ningrum et al., 2022).

The World Health Organization (WHO) reported a 6% prevalence of anemia among infants and children aged 6 to 59 months in America in 2011. However, in Indonesia in 2023, the situation is more concerning. Surveys conducted by the Indonesian Ministry of Health show that anemia rates among toddlers in Indonesia are significantly higher, ranging from 40% to 50%. Additionally, 40% of toddlers exhibit feeding refusal behaviors. This is primarily attributed to iron deficiency, the leading cause of anemia in children. Anemia can harm a toddler's growth, development, and immune system and hinder cognitive and physical development. RISKESDAS, (2023) A preliminary study at Brondong Health Center in Lamongan Regency found that 11 of 11 toddlers with feeding refusal had hemoglobin levels below 11 gr/dl.

In terms of providing complementary foods to breastfeeding (MPASI), there are several strategies that parents should follow. First, complementary feeding should be introduced at 6 months, when breast milk alone is no longer sufficient to meet the baby's nutritional needs. Second, complementary feeding must fulfill the child's macronutrient and micronutrient requirements. Next, complementary feeding should be prepared and served safely and hygienically. Finally, complementary feeding needs to be provided responsively in accordance with the child's hunger and fullness cues (Maulidya & Muniroh, 2020).

A thorough understanding of the underlying causes of feeding refusal and anemia, combined with implementing suitable strategies, empowers parents to effectively assist their children in overcoming these challenges and fostering healthy growth. Collaborative efforts with healthcare professionals are essential for ensuring optimal care. Given that each child is unique, the most effective approaches will vary. Ultimately, parental patience and consistency are key to addressing these issues, parents equipped with this knowledge are better positioned to reduce the incidence of feeding refusal.

The results of a preliminary study conducted at Brondong Health Center, Brondong District, Lamongan Regency, from May to July 2024, found that 25% of toddlers exhibited feeding refusal. Further analysis of these toddlers showed that their average hemoglobin levels were below 11 gr/dl, suggesting a possible correlation between feeding refusal and anemia. Feeding refusal and anemia in toddlers are quite complex health issues that significantly impact a child's growth and development. The role of parents in addressing these two issues is crucial. Therefore, in-depth research on the role of parents is essential. The research aims to determine the role of parents in overcoming food refusal and preventing iron deficiency anemia in toddlers.

## Method

This study can employ a quantitative approach with an observational analytical design at Brondong Health Center, Brondong District, Lamongan Regency. The population consists of toddlers aged 6-24 months with feeding refusal issues and their parents/mothers, with a sample size of 20 respondents. A total sampling technique was used, with all 20 respondents included in the study. The research instrument used the KAP scale (Knowledge, Attitude, Practice) and hemoglobin tests on toddlers aged 6-24 months. The independent variable in this study was parental role, while the dependent variables were the incidence of feeding refusal and anemia. The chi-square test was used to analyze the data.

## Results

**Table 1.** Characteristics of Respondents at Puskesmas Brondong, Brondong District, Lamongan Regency

Characteristics of Respondents		f	%
Last education	Elementary School	0	0
	Junior high school	5	25
	Senior high school	8	40
	Graduated from higher education	7	35
Work	Not working	8	40
	Private sector/employee	7	35
	PNS	5	25
total		20	100

Source: Primary Data

The survey results show that the majority of respondents (40%) are high school graduates and do not have a permanent job.

**Table 2.** Distribution of feeding refusal in toddlers at the Brondong Health Center, Lamongan Regency

Feeding Refusal	f	%
Yes	11	55
No	9	45
Total	20	100

Source: Primary Data, 2024

It shows that 55% of toddlers in the Brondong Health Centre area experience feeding refusal, which can occur due to physiological and psychological factors.

**Table 3.** Distribution of Anemia in Toddlers at Brondong Health Center, Brondong District, Lamongan Regency

Iron deficiency anemia	f	%
Hb Normal (11 gr/dl)	11	55
Hb Below normal (< 11 gr/dl)	9	45
Total	20	100

Source: Primary Data, 2024

A survey of hemoglobin levels in toddlers indicated a 55% prevalence of iron deficiency anemia. This condition results from insufficient iron to synthesize hemoglobin, the essential component of red blood cells responsible for oxygen transport. Contributing factors to iron deficiency anemia in toddlers encompass inadequate dietary iron intake, rapid growth, prematurity, prolonged exclusive breastfeeding without iron supplementation, excessive cow's milk consumption, bleeding episodes, impaired iron absorption, infections or chronic diseases, twin births, shorter breastfeeding duration, and absence of breastfeeding.

**Table 4.** The Role of Parents in Addressing the Feeding Refusal at Brondong Community Health Center, Brondong District, Lamongan Regency

Role (KAP Scale)	The Feeding Refusal				P value
	Feeding Refusal		No Feeding Refusal		
	f	%	f	%	
Good	2	18,1	7	7,2	0,00
Enough	3	27,2	2	1,9	
Lacking	6	54,5	0	0	

Source: Primary Data, 2024

The survey results showed an inadequate parental role was found in 6 respondents (54.5%) with a p-value of 0.00, indicating a highly significant impact of parental role on feeding refusal. This suggests inappropriate attitudes, knowledge, and practices contribute to feeding refusal. One example is that parenting styles significantly influence a child's growth and development, especially eating habits, and poor parenting styles can lead to feeding difficulties (Riswan, 2020).

**Table 5.** The Role of Parents in Addressing Iron Deficiency Anemia in Toddlers at Brondong Health Center, Brondong District, Lamongan Regency

Role (KAP Scale)	Iron Deficiency Anemia				P Value
	Hb Normal (11 gr/dl)		Abnormal (<11gr/dl)		
	n	%	n	%	
Good	2	18,1	1	14,2	0,00
Enough	3	27,2	1	14,2	
Lacking	6	54,5	7	77,8	

Source: Primary Data, 2024

The survey results indicated that inadequate parental involvement in addressing anemia was observed in 7 respondents (77.8%), with a p-value of 0.00, highlighting the significant role of parents in managing iron deficiency anemia. This finding underscores the importance of parental knowledge about iron deficiency anemia in toddlers. Parental knowledge of nutrition, signs of anemia, and preventive measures can significantly reduce the risk of anemia in children (Gumilang et al., 2021).

## Discussion

The survey showed that 55% of Brondong Community Health Center toddlers experienced feeding refusal. Feeding refusal is influenced by the education level of parents, especially mothers, as it affects their understanding of the importance of nutrition for children. Parents with higher education levels tend to have better knowledge of the nutritional needs of toddlers and are more capable of providing nutritious and appealing meals for their children. A good education enables parents to access information on addressing feeding refusal, such as avoiding forcing children to eat and creating a positive mealtime atmosphere. Parents with jobs demanding more time may have limited capacity to monitor their toddler's eating patterns and address feeding refusal. In contrast, parents with more free time can be more involved in meal preparation and accompanying their children during meals. The type of job is often related to the family's economic level. Parents with stable jobs or higher incomes are more capable of providing quality food, while those with lower incomes may struggle to provide nutrient-rich foods necessary to prevent anemia (Gumilang et al., 2021).

Parents with lower education levels and low-income jobs are at greater risk of having children who experience feeding refusal due to a lack of nutritional knowledge and economic limitations in

providing a varied diet. Education and employment also affect overall parenting styles. Non-responsive parenting due to time constraints or stress may make children uncomfortable during meals, triggering or worsening feeding refusal (Chumairoh & Ika Suryaningsih, 2021).

The results of the hemoglobin level survey in toddlers show that 55% of toddlers have iron deficiency anemia. Iron deficiency anemia in toddlers occurs when the body lacks the iron needed for hemoglobin production, the main component of red blood cells responsible for carrying oxygen. Here are some of the main factors causing iron deficiency anemia in toddlers: insufficient iron intake, rapid growth, premature birth or low birth weight, prolonged exclusive breastfeeding without iron supplements, excessive cow's milk consumption, bleeding, iron absorption disorders, infections or chronic diseases, twin births, shorter breastfeeding periods, or not being breastfed at all (Gumilang et al., 2021).

A survey conducted revealed that a significant proportion of parents (54.5%) were not adequately involved in addressing picky eating in their children ( $p < 0.001$ ). This finding underscores the critical role of parental involvement in preventing and managing picky eating behaviors. Parental attitudes, knowledge, and practices, particularly parenting styles, significantly influence a child's eating habits and overall development. Inadequate parenting practices are often linked to the development of picky eating behaviors (Riswan., 2020).

Parents' or caregivers' knowledge of nutrition, child development, and healthy eating habits can influence their attitudes and behaviors in dealing with feeding refusal. Similarly, parental practices in child-rearing and feeding can significantly impact the occurrence of feeding refusal in toddlers (Maulidya & Muniroh, 2020).

Parental knowledge plays a significant role in feeding refusal in toddlers. With a good understanding of nutrition, child development, and appropriate feeding techniques, parents can create a positive eating environment and support their children in developing healthy eating habits. Educating and counseling parents about the importance of a healthy diet and how to manage feeding refusal in toddlers is crucial in promoting children's health and well-being (Maulidya & Muniroh, 2020).

Parenting practices in feeding and child-rearing can significantly impact the occurrence of feeding refusal in toddlers. Parental practices profoundly influence the prevalence of feeding refusal in young children. By implementing positive feeding methods, creating a relaxed eating environment, and demonstrating supportive attitudes and behaviors, parents can help reduce feeding refusal and promote healthy eating habits in children. Education on addressing and understanding children's eating behaviors is also crucial in helping children develop a positive relationship with food (Rahayu, 2020).

A survey conducted revealed that a significant proportion of parents (77.8%) were not adequately involved in addressing anemia in their toddlers ( $p < 0.001$ ). This finding underscores the critical role of parental involvement in preventing and managing iron deficiency anemia. Parental knowledge about iron deficiency anemia, including nutrition, symptoms, and preventive measures, is a key factor in reducing the risk of anemia in young children (Gumilang et al., 2021).

Parental knowledge plays a pivotal role in preventing and managing anemia in toddlers. With a comprehensive understanding of nutrition, signs of anemia, and optimal feeding practices, parents can more effectively safeguard their children's health. Continuous education and access to accurate information are essential to ensure parents can make informed decisions for their children's health and well-being (Gumilang et al., 2021).

Parental attitudes towards nutrition and child health significantly impact the occurrence of iron deficiency anemia in toddlers. These attitudes encompass parental beliefs, values, and behaviors related to child-rearing and feeding. Positive attitudes, a sound understanding of nutrition, and behaviors that support healthy eating habits can help prevent anemia in children. Therefore, parents must enhance their knowledge and develop positive attitudes toward nutrition to provide optimal support for their children's health. Continuous education and support are essential to achieve better health outcomes for toddlers (Husein, 2018).

Parental practices in childcare and feeding play a vital role in preventing iron deficiency anemia in toddlers. Parents act as the first line of defense in preventing iron deficiency anemia by paying close attention to a child's nutritional intake. One of the most effective ways to prevent anemia is by providing foods rich in iron and vitamin C. Iron is a key component of hemoglobin, a protein in red blood cells that carries oxygen throughout the body. Vitamin C helps increase the body's absorption of iron. Therefore, parents must ensure their children consume red meat, poultry, fish, eggs, dark green leafy vegetables, and fruits (Purnama, 2015).

Education about nutrition and child health should be ongoing. Educational programs involving parents, such as parenting classes, health education, and nutrition campaigns, can provide accurate and up-to-date information. In addition, access to easy-to-understand and relevant information is also critical.

## Conclusions

The research findings demonstrated a significant role of parents in addressing picky eating and anemia among toddlers in Brondong Health Center, Brondong District, Lamongan Regency, with a p-value of 0.000. This indicates that parental involvement is crucial in managing these nutritional challenges.

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