



# Relationship between complex feeding behavior and nutritional status of children aged 6-24 months

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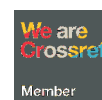
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# Relationship between complex feeding behavior and nutritional status of children aged 6-24 months

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## ABSTRACT

**Introduction** Some people who hold the view that a healthy baby is a fat baby, do not think that the fulfillment of nutrition is not measurable and will play a role in the occurrence of excessive feeding including the provision of complementary foods (MP ASI). The study aims to determine the relationship between the behavior of providing MP-ASI with the nutritional status of children aged 6-24 months in the Mandiri Village UPTD Tomoni Health Center, East Luwu Regency. **Method** This research was conducted in Desa Mandiri UPTD Puskesmas Tomoni. The quantitative research method used a cross-sectional approach, a sample of 50 infants aged 6-24 months with a sample technique using accidental sampling. The research instruments were questionnaires and anthropometric measurements. The data analysis technique used the chi-square test. **Results** The study showed that the Asymp Sig (2Sided) obtained 0.000 (  $<0.05$  ) and it can be concluded that there is a significant relationship between the behavior of providing complementary feeding and the nutritional status of children aged 6-24 months in the Mandiri Village, UPTD Tomoni Health Center, East Luwu Regency. **Conclusion** that there is a significant relationship between the behavior of providing complementary feeding with the nutritional status of children aged 6-24 months . For this reason, researchers hope that this study can be used as a form of routine activity to increase students' insight into children's nutritional status.

## Keywords:

Behavior  
MP-ASI  
Nutritional status

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## Introduction

Conditions that affect early growth and development are nutrition. The baby's need for nutrition increases as the baby gets older (Çelik & Köksal, 2024). Therefore, at the age of 6 months, babies begin to be introduced and given additional nutrition in the form of complementary foods for breast milk (MP-ASI) or additional foods that aim to fulfill the baby's nutrition (Demirel Ozbek et al., 2025).

Complementary food for breast milk (MP-ASI) is food that is easy for babies to consume and digest. The complementary food given must provide additional nutrition to meet the nutritional needs of growing babies. Although breast milk is the best food for babies, babies aged > 6 months need more vitamins, minerals, protein and carbohydrates (Gu et al., 2025). This high nutritional requirement cannot only be obtained from breast milk, but also requires additional complementary foods (Masuke et al., 2021).

The global infant mortality rate is 43 per 1,000 live births, which means almost 6 million deaths in just one year. The incidence of digestive and respiratory tract infections due to early provision of

complementary foods is one of the causes of high infant mortality rates in Indonesia (Demirel Ozbek et al., 2025). The negative impact of early provision of complementary foods is in accordance with research conducted by the Center for Nutrition and Food Research and Development, it is known that partial breastfed babies are more likely to suffer from diarrhea, coughs, colds, and fevers than predominantly breastfed babies (Agustina & Ati, 2022). Early introduction of additional foods to babies is full of great risks and must be eliminated and exclusive breastfeeding is recommended until the age of 4-6 months. Sometimes unnecessary supplements are given from 4-6 weeks. Given the high rate of infection, it is advisable not to introduce additional foods before 6 months (Hassan et al., 2024).

According to the report of the World Health Organization (WHO), nutritional problems can be indicated by the high incidence of malnutrition which shows that Indonesia's public health is the lowest in ASEAN, and is ranked 142nd out of 170 countries (Oguizu & Onyedinefu, 2025). In Indonesia, children who receive MPASI at the age of 6-23 months reach 52% of the target of 100% (Syahrir et al., 2024).

South Sulawesi Province shows that 58.74% of mothers provide complementary foods (MP-ASI) too early for babies aged 0-6 months and 41.26% of mothers do not provide complementary foods too early. Data from the Ministry of Health of South Sulawesi in 2021, there were 2,691 toddlers with cases of malnutrition (Chipanha & Katalambula, 2024).

Based on the results of the Indonesian Nutritional Status Survey (SSGI), the prevalence of stunting in East Luwu Regency increased in 2022, namely by 22.6% or an increase of 2.7% from 19.9% in 2021. Currently, East Luwu has changed to the fifth lowest ranking out of 24 districts/cities in South Sulawesi (Hassan et al., 2024).

In a study conducted by (Lim et al., 2024), entitled The Relationship between Mother's Knowledge about Providing Complementary Breastfeeding and the Nutritional Status of Children Aged 6-12 Months (Njuguna, 2021). In this study, the sample was 25 mothers who had babies aged 6-12 months. The results of the study stated that there was a relationship between mother's knowledge about providing complementary breastfeeding and the nutritional status of children aged 6-12 months at BTM Nihayatur Rokhmah, Kuningan Village, Blitar Regency. Inappropriate and age-appropriate provision of complementary foods will cause disruption in fulfilling the baby's nutritional needs and also digestive disorders (Bames et al., 2023). The digestive system of babies under 6 months old is not ready to receive semi-solid foods and is at risk of digestive problems such as diarrhea and bloody stools. Inappropriate provision of complementary foods will result in the child's nutritional status not being met, and provision of complementary foods in excess will result in the child being overweight and obese (Waruguru, 2024). The first year of a baby or child's life aged 0-12 months is a period of rapid physical growth and entering the age of 6 months needs to receive complementary foods in addition to breast milk for optimal physical growth. Baby growth can be monitored by looking at the weighing results recorded on the KMS (Healthy Menu Card). The growth and development of babies do not only depend on the birth process and care but are also influenced by feeding patterns (Kocagozoglu et al., 2024). Entering 6 months and above, babies begin to need additional complementary foods in addition to breast milk. Breast milk alone cannot fulfill all the energy and nutritional needs of a baby, because the fulfillment of a baby's nutrition from breast milk is only 65-80%. This is because the baby's digestive organs are starting to function better, so that the baby can be given MP-ASI or complementary foods to breast milk (Namene, 2022). The pattern of feeding a baby is closely related to the baby's weight, because this pattern provides an overview of the frequency of feeding, the type/form of food and the amount of food given (Mekonnen et al., 2021).

The provision of MPASI in Indonesia is not entirely appropriate, many parents provide MPASI too early. Providing MPASI too early, namely babies under 6 months of age, can have adverse effects in the form of allergies, respiratory tract infections and diarrhea which can cause growth disorders that lead to obesity. Problems related to the texture, amount and frequency of MPASI are also still found to be inappropriate in society (Ahmed et al., 2022).

The problem of nutritional status in BADUTA is influenced by several factors, one of which is the low knowledge of mothers about (MPASI). Lack of maternal knowledge is one of the determinants of nutritional status in children because it can determine the mother's attitude and behavior in choosing the food to be consumed and eating patterns related to the amount, type and frequency that will affect nutritional intake in BADUTA (Rahayu, 2020). Maternal knowledge is influenced by several factors, namely education, age, socio-economic status (Syafiqah et al., 2024).

Initial data obtained from the integrated Nutrition report of the Tomoni Health Center UPTD, the number of babies experiencing nutritional status problems in 2022 was 48 out of 1911 toddlers, while in 2023 it was 56 out of 1997 toddlers (Silm, 2024). Nutritional status problems that occur in children include malnutrition to stunting. However, in the Mandiri village posyandu area in 2022, there were 8 people experiencing nutritional status problems out of 54 toddlers, while in 2023 there were 16 people experiencing nutritional status problems out of 52 toddlers (Wangsim, 2024).

Based on this phenomenon, the researcher wanted to conduct a study to determine the relationship between the behavior of providing complementary feeding with the nutritional status of children aged 6-24 months in the Mandiri Village, UPTD Tomoni Health Center, East Luwu Regency (Thalayan, 2024).

## Methods

This study aims to determine the relationship between complementary feeding behavior and the nutritional status of children aged 6-24 months in the Mandiri Village, UPTD Tomoni Health Center, East Luwu Regency (Parangkulan, 2024).

This study is an analytical observational study with a correlation study that examines the relationship between variables involving at least two variables, namely independent and dependent variables. While the approach used is a cross-sectional study, where this study is a measurement or observation carried out simultaneously at one time (once upon a time) with the aim of determining the Behavior of Providing Complementary Feeding with the Nutritional Status of Children Aged 6-24 Months in the Independent Village of the Tomoni Health Center UPTD, East Luwu Regency (Permatasari & Chadirin, 2022). The population is 104 people and a sample of 50 children aged 6-24 months. The sample was taken using accidental sampling, namely a sampling determination technique based on coincidence, namely any patient who accidentally meets the researcher can be used as a sample, if the person who happened to be met is considered suitable as a data source. The measuring instruments are in the form of questionnaires and anthropometric measurements (baby scale and lengthboard). Data analysis using the chi-square test (Gupta et al., 2020).

## Results and Discussion

**Table 1**Frequency Distribution of MP-ASI Provision in Children Aged 6-24 Months

Complementary Feeding Behavior	Frequency	Percentage (%)
Not good	10	20
Good	40	80
Total	50	100

Source: Primary data, 2024

Based on the table above, out of 50 respondents, the majority have good behavior in providing complementary feeding such as the time, method and type of food given, namely 40 people (80%) and the respondents who have less good behavior in providing complementary feeding are 10 people (20%).

Based on the Table 2, of the 50 babies aged 6-24 months, the majority were in normal nutritional status (39 people (78%), in overweight nutritional status (7 people (18%) and in underweight nutritional status (2 people (4%).

**Table 2**Frequency Distribution of Nutritional Status of Children Aged 6-24 Months

Nutritional status	Frequency	Percentage
Malnutrition	2	4 %
Normal nutrition	39	78%
More nutrition	9	18 %
Total	50	100%

Source: Primary data, 2024

**Table 3**Relationship between Complementary Breastfeeding Behavior and Nutritional Status of Children Aged 6-24 Months in the Independent Village, UPTD Tomoni Health Center, East Luwu Regency

Complementary Feeding Behavior	Nutritional status						Amount		p-value
	Not enough		Normal		More		F	%	
	n	%	N	%	n	%			
Not good	2	4 %	3	6 %	5	10%	10	20%	0,000
Good	0	0	36	72%	4	8%	40	80%	
Total	2	4 %	39	78%	9	18%	50	100%	

Source: Primary data, 2024

Based on table 3, respondents who have poor behavior in providing complementary feeding have children with poor nutritional status 2 people (4%) and more 5 people (10%). While those who have good behavior in providing complementary feeding have children with normal nutritional status 36 people (72%) and more 4 people (8%) (Umwali et al., 2022).

The results of the Chi-square statistical test analysis obtained a p-value of 0.000 (  $<0.05$  ), which means that the alternative hypothesis is accepted, so it can be concluded that there is a relationship between the behavior of providing complementary feeding and the nutritional status of children aged 6-24 months in the Mandiri Village, UPTD Tomoni Health Center, East Luwu Regency (Hafid et al., 2025).

Good child growth can be said when a baby who is getting older will also gain weight and height within normal limits according to his age. This is supported by the theory by Rohan and Siyoto which states that growth is a dynamic and continuous process and an increase in the size of cells throughout the body (Octasila & Yana, 2019).

Based on the results of the study, respondents who have poor behavior in providing complementary feeding have children with poor nutritional status 2 people (4%) and more 5 people (10%). While those who have good behavior in providing complementary feeding have children with normal nutritional status 36 people (72%) and more 4 people (8%) (Mutuku et al., 2020).

The results of the Chi-square statistical test analysis obtained a p-value of 0.000 (  $<0.05$  ), which means that the alternative hypothesis is accepted, so it can be concluded that there is a relationship between the behavior of providing complementary feeding and the nutritional status of infants aged 6-24 months at the Melati Posyandu, Mandiri Village, UPTD Tomoni Health Center, East Luwu Regency (Andreinie et al., 2024).

The results obtained from this study show that there is a difference between the nutritional status of infants aged 6-24 months who are given good and poor complementary feeding. Most of the children who received MP-ASI well were stated to have an average normal nutritional status. This is supported by the theory put forward by Salim Choiri which states that good and balanced nutritional intake, good health maintenance, good parenting patterns, and clean and healthy environmental conditions, etc. can affect growth (Wubetie et al., 2024).



This result is in line with the research conducted by (Lefebo et al., 2023) the results of the chi-square test showed a p value of 0.02, meaning that there is a significant relationship between the provision of MP-ASI and nutritional status in children. Good growth can be caused by good nutrition so that it can also lead to good growth.

In a similar study presented the results of the chi-square test showed a p value of 0.019 ( $<0.05$ ) so it can be concluded that there is a significant relationship between the provision of complementary foods and nutritional status in infants. Researchers stated that infants who receive complementary foods according to the time, method and type of food, grow better than infants who receive complementary foods faster. This is because the nutritional needs contained in breast milk and complementary foods are no longer in accordance with the time and method of the baby's needs.

This finding is in contrast to a study conducted which obtained results with a Sig Value (p Value)  $P = 0.249$  ( $> 0.05$ ), which means that there is no difference in the nutritional status of infants aged 6 months and over who are given MP-ASI and early MP-ASI. From the results of the study that has been carried out, infants who receive early MP-ASI experience normal growth on average and there is no significant difference between the growth of infants who receive Exclusive Breastfeeding and early MP-ASI. This happens because researchers only use research indicators from body weight so that other growth indicators are not studied such as height calculations.

Failure to implement breastfeeding is caused by several inhibiting factors, such as a weak understanding of breast milk production. Most mothers perceive that their breast milk production is only a little and not enough for the baby's needs, which is indicated by the baby being fussy and crying. Mothers have the perception that a baby crying is an indicator that the baby is still hungry so that additional food must be given in the form of formula milk and food.

## Conclusion

The conclusion are: (1) Most respondents have good behavior in providing complementary feeding such as the time, method and type of food given, namely 40 people (80%); (2) Most of them were at normal nutritional status, namely 39 people (78%); (3) There is the relationship between the behavior of providing complementary feeding with the nutritional status of children aged 6-24 months in the Mandiri Village, UPTD, Tomoni Health Center, East Luwu Regency.

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