PANAKEIA 3 (1) 2026

PANAKEIA JOURNAL OF EPIDEMIOLOGY

https://e-journals2.unmul.ac.id/index.php/panakeia/index

Pattern of Providing Complementary Foods Among Undernutriton Children in The Hunduhon Community Health Center Working Area in Banggai Regency

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Article Info

Article History:
Submitted 4/21/2026
Revised 4/28/2026
Accepted 5/5/2026

Kata Kunci: :
Makanan pendamping, anak-anak kekurangan gizi, MP-ASI

Keywords:
Complementary foods, undernutrition children, MP-ASI

Abstrak

Pola asuh merupakan komponen dari pola asuh gizi, yang tercermin dalam praktik pemberian ASI dan makanan pendamping oleh ibu. Penelitian ini bertujuan untuk mendeskripsikan praktik pemberian makanan pendamping (MP-ASI) pada anak-anak kurang gizi di Puskesmas Hunduhon pada tahun 2026. Penelitian ini merupakan penelitian deskriptif. Ukuran sampel adalah 37 anak kurang gizi usia 0-23 bulan, yang mewakili total populasi anak kurang gizi di wilayah kerja Puskesmas Hunduhon pada tahun 2026. Data dianalisis menggunakan analisis univariat. Hasil: 82% anak kurang gizi diberi makanan pendamping yang tidak sesuai dengan usia yang dianjurkan. Sementara itu, yang diberi sesuai dengan usia yang dianjurkan hanya 18%. 80% diberi makanan pendamping lokal. Sedangkan yang diberi makanan pendamping pabrikan hanya 20%. 58% diberi makanan pendamping dalam bentuk yang tidak sesuai dengan usia mereka. Sedangkan yang diberi sesuai dengan usia mereka adalah 42%. 94% anak-anak yang kekurangan gizi diberi makanan pendamping dengan frekuensi yang tidak sesuai dengan usia mereka, sedangkan hanya 6% yang diberi makanan pendamping dengan frekuensi yang sesuai dengan usia mereka. Upaya pendidikan dan konseling kesehatan diperlukan mengenai pentingnya pola pemberian MP-ASI pada usia 6-24 tahun yang sesuai dengan rekomendasi kesehatan.

Abstract

Inadequate parenting is a significant factor contributing to malnutrition in toddlers. Dietary parenting is a component of nutritional parenting, reflected in maternal breastfeeding and complementary foods practices. This study aimed to describe complementary foods (MP-ASI) practices among undernutrition children in the Hunduhon Community Health Center in 2026. This is a descriptive study. The sample size was 37 undernutrition children 0-23 Months, representing the total population of undernutrition children in the Hunduhon Community Health Center working area in 2026. Data were analyzed using univariate analysis. Results: 82% of undernutrition children were given complementary foods that were not in accordance with the recommended age. Meanwhile, those given according to the recommended age were only 18%. 80% were given local complementary foods. While those given manufactured complementary foods were only 20%. 58% were given complementary foods in a form that was not in accordance with their age. While those given according to their age were 42%. 94% of undernutrition children were given complementary foods with a frequency that was not in accordance with their age, while those given complementary foods with a frequency that was in accordance with their age were only 6%. Health education and counseling efforts are needed regarding the importance of MP-ASI giving patterns at the age of 6-24 that are in accordance with health recommendations.

INTRODUCTION

Health development is a Healthy Indonesia program aimed at improving the health and nutritional status of the community through health and community empowerment efforts supported by financial protection and equitable distribution of health services. One of the main targets of the National Medium-Term Development Plan is improving the health and nutritional status of mothers and children (Sekretariat Negara, 2025).

Nutritional problems are generally caused by two main factors: infectious diseases and low nutritional intake. The availability of food in families is limited, which ultimately has the potential to lead to malnutrition or severe malnutrition. Nutrition improvement programs that aim to increase the quantity and quality of complementary foods, including breast milk, can be implemented by providing complementary foods to infants aged 6-24 months. Nutrition improvement programs that aim to increase the quantity and quality of complementary foods, including breast milk, can be implemented by providing complementary foods to infants and children aged 6-24 months. After the age of 6 months, infants' nutritional needs increase, necessitating complementary foods. A balanced diet will produce good nutritional status in children.

Proper feeding from birth to two years of age is a fundamental step in ensuring quality growth and development while fulfilling children's rights. According to WHO and UNICEF, more than 50% of child deaths are related to malnutrition, and two-thirds of these deaths are related to inappropriate feeding practices for infants and children, such as not initiating breastfeeding within the first hour of birth and providing complementary foods too early or too late. This situation can weaken the immune system, lead to frequent illness, and lead to stunted growth. Therefore, addressing malnutrition in infants and toddlers through proper and correct feeding of infants and children is a crucial agenda for saving future generations. Complementary Foods (MP-ASI) are nutritious foods or drinks given to infants and children aged 6-24 months to meet their nutritional needs (UNICEF, 2012, 2020; (UNICEF), 2020).

Based on the 2018 Basic Health Research (Riskesdas) conducted by the Ministry of Health, it shows that the prevalence of malnutrition in toddlers in Indonesia is still high, including 17.7% of toddlers are malnourished in Indonesia (BB/A), as many as 30.8% of toddlers experience stunting (TB/A), based on PSG in Central Sulawesi itself, there are cases of malnutrition in toddlers of 3.8% and cases of malnutrition of 15.5% (Kementerian Kesehatan Republik Indonesia, 2019). The purpose of this study is to determine the pattern of providing complementary foods for undernourished toddlers in the Hunduhon Community Health Center work area.

METHOD

This type of research is descriptive research to describe the pattern of providing complementary feeding to toddlers with malnutrition. This research was conducted in the Hunduhon Community Health Center Working Area. The population in this study were all toddlers with malnutrition in the Hunduhon Community Health Center working area in January 2026, totaling 37 toddlers. The dietary pattern variables assessed in this study were: Age of

Complementary Feeding, Type of Complementary Feeding, Complementary Feeding Group, Complementary Feeding Form, Frequency of Complementary Feeding, and provision of snacks. In addition, data was also collected on respondent characteristics such as: Mother's Age, Mother's Education and Mother's Occupation. Data were collected through interviews with respondents using a questionnaire as a research instrument. The data analysis was carried out univariately and presented in the form of frequency distribution accompanied by narrative..

RESULT AND DISCUSSION

This study examined the age group, education level, and occupation of mothers of toddlers. The majority of mothers were in the 20-35 age group, representing 70%. Those aged 35 and over and under 20 years old accounted for only 25% and 5%, respectively. Based on educational attainment, the majority of mothers had a low level of education (70%) (middle school and elementary school). Meanwhile, the proportion of toddlers whose mothers had higher education was only 30%. Regarding occupation, the majority of mothers were housewives (67%). The proportions of toddlers whose mothers worked as civil servants and private sector employees were only 3% and 8%, respectively.

Table 1. The characteristics of respondents

Variable	Sum	%
Mother's Age Group		
< 20 years	2	5
20-35 years	25	70
> 35 years	10	25
Mother's Highest Education		
Diploma/College Degree	1	3
High School	10	27
Junior High School	16	43
Elementary School	10	27
Mother's Occupation		
Civil Servant	1	3
Private Sector	3	8
Entrepreneur	1	3
Farmer/Fisherman	7	19
Housewife	25	67

Distribution of Toddlers by Age of Complementary Foods (MP-ASI) Most (82%) of undernourished toddlers were given complementary foods that were not in accordance with the recommended age. This was done before the age of 6 months. Meanwhile, the proportion of undernourished toddlers who were given MP-ASI according to the recommended age was only 18%. Based on the age of first breastfeeding, the majority were at 3 months, namely 9 toddlers (24%). At 6 months, there were 8 toddlers (22%). Meanwhile, at the age of 0-1 months, only 4 toddlers (10%) were given MP-ASI

Table 2. Distribution of Toddlers Based on Age of Complementary Feeding

Variable	Sum	%
Age for Complementary Feeding		
Accordance	7	18
No	30	82
Age of First Breastfeeding		
0	2	5
1	2	5
2	5	14
3	9	24
4	6	16
5	5	14
6	8	22
First Type of MP-ASI		
Formula Milk	16	43
Porridge	11	31
Rice	1	2
Manufacturer Porridge	12	24
MP-ASI		
Local	29	78
Manufacturer	8	22

Variable	Sum	%
Texture of MP-ASI		
Sesuai	15	40
Tidak Sesuai	22	60
Frequency of Providing Complementary Foods		
Accordance	2	5
No	35	95
Snacks time		
Provided	18	49
No	19	51

Based on the type of complementary feeding (MP-ASI), the majority of toddlers (43%) were given formula milk as their first complementary food. Another 31% were given porridge, and 2% were given rice as their first complementary feeding. Based on the complementary feeding group, the majority of toddlers were given locally made complementary feeding, that is, homemade, using readily available and readily available ingredients. Only 24% received manufactured complementary feeding, which was given directly without processing. Based on the format of complementary feeding, more than half of the toddlers studied received complementary feeding in an age-inappropriate format (60%). Meanwhile, 40% received complementary feeding in an age-appropriate format. Based on the frequency of complementary feeding, most were age-inappropriate (95%). Meanwhile, the proportion of toddlers receiving complementary feeding at an age-appropriate frequency was only 5%. Regarding the provision of snacks, more than half of the toddlers were not given any snacks (51%). The proportion of toddlers given snacks was only 49%.

Malnutrition in toddlers, both acute and chronic, can certainly affect the immune system, physical growth and cognitive development of toddlers, which in turn contributes to increased morbidity and mortality in toddlers and decreased academic achievement and human resource productivity in the future (Prendergast & Humphrey, 2014). Inadequate parenting is a significant factor in causing malnutrition in toddlers. Dietary parenting is part of nutritional parenting, which can be seen in maternal behavior regarding breastfeeding and complementary feeding (MP-ASI) (UNICEF, 2012, 2020).

Breast milk is given to babies up to 24 months old because it has advantages that cannot be replaced by any other food. Breast milk contains immune substances that can protect babies from various diseases and contains all the right and complete nutrients with a composition that suits the needs of babies (WHO, 2023). Scientific research shows that children who are exclusively breastfed as babies generally have strong immune systems and are more intelligent, so they can produce quality human resources (Victora et al., 2021).

Good and proper feeding practices are crucial for infant survival, growth and development, as well as health and nutrition. At six months, babies can begin receiving complementary foods (MP-ASI). Most MP-ASIs are not age-appropriate, such as early and late introduction of MP-ASI, both of which pose risks and negative effects for infants (Kementerian Kesehatan Republik Indonesia, 2022; United Nations Children's Fund (UNICEF) & World Health Organization, 2021).

In this study, all toddlers with malnutrition were given complementary foods (MP-ASI) from 0-6 months of age. This provision does not comply with the recommended provision of MP-ASI based on age, which should be given at ages above 6 months. This inappropriate provision of MP-ASI can be linked to the low level of maternal education, where most mothers of toddlers have a low level of education. The results of this study are in line with research conducted by Asmarudin Pahri et al. in 2015, which found that maternal education is one of the factors influencing the provision of early MP-ASI. The process of searching and receiving information will be faster if the mother is highly educated.

Research conducted by Afriani in 2016 also found that low maternal education is associated with the practice of providing early MP-ASI. Education also influences knowledge (Afriyani et al., 2016). Wahyuhandani in his research found that 69.2% of mothers who had less knowledge provided early complementary feeding (Wahyuhandani & Mahmudiono, 2017).

Exclusive breastfeeding should be given to newborns until they reach 6 months of age. At around 6 months of age, their energy and nutrient needs begin to exceed those provided by breast milk, necessitating the introduction of complementary foods (MP-ASI). At the same time, babies are physically ready to accept other foods. This transition is called MP-ASI (complementary feeding). If MP-ASI is not introduced by 6 months of age, or if it is introduced incorrectly, the baby's growth will be stunted. (UNICEF, 2020; Yuliane & Rahmayati, 2019).

Many parents believe that a baby's nutritional needs are not met by only providing breast milk, so providing complementary foods in the form of formula milk and other foods is common among parents. Some short-term risks if mothers provide complementary foods to breast milk (MP-ASI) too early to babies, such as the risk of diarrhea because MP-ASI is not as clean and not as easy to digest as breast milk, the lack of antioxidants in breast milk makes babies susceptible to disease, and there are still many negative effects caused by providing complementary foods too early to babies (Victora et al., 2021). Early introduction of infants to foods of low energy and nutritional quality or foods prepared unhygienically can lead to malnutrition and infection, which can lead to low immunity. Complementary feeding before 6 months of age can also hinder exclusive breastfeeding. Long-term effects of early complementary feeding include the risk of obesity, hypertension, atherosclerosis, and food allergies, which can even lead to death. Furthermore, early complementary feeding can affect gross motor development (Mursyida A., 2018). Similarly, a study explains that there are differences in gross motor development between babies who are exclusively breastfed and those who receive complementary foods early. One form of developmental impairment is that babies who are given complementary foods early cannot sit without support, which is what babies who are exclusively breastfed can do (Nurlila & Fua, 2015). In 2021, Julizar found in his research that the development of babies aged 0-6 months in the group who received exclusive breastfeeding was better than those who did not receive exclusive breastfeeding (Julizar & Muslim, 2021).

In addition to the age at which complementary foods are introduced, the type of complementary food is also important to consider in nutritional parenting. In this study, the types of complementary foods provided to 37 undernourished toddlers were mostly local complementary foods. The toddlers' mothers prepared these complementary foods themselves using readily available or readily available ingredients in the community. These local complementary foods were also obtained from attending integrated health service posts (Posyandu), which were also prepared independently by the Posyandu administrators using locally available ingredients. The types of complementary foods provided included porridge (including rice porridge).

Both factory-made and locally produced MP-ASI (homemade) have the same benefits as long as they are provided in sufficient quantities and are of relatively high quality. The nutritional content of local MP-ASI is not clearly measurable. Although the KIA or KMS Handbooks list how to make nutritious MP-ASI, sometimes housewives do not pay enough attention to this, resulting in the nutritional content of local MP-ASI not being clearly measurable (Mangkat et al., 2016). This can affect a child's development due to the mismatch between nutritional intake and nutritional needs.

The nutritional content of manufactured complementary foods (MP-ASI) has been measured by the Indonesian Ministry of Health to meet the nutritional needs of the children who consume them. These measured nutritional levels directly impact a child's development. This is because the macronutrients and micronutrients contained in the foods contribute to brain maturity and the formation of body tissues during the golden period of child development, namely ages 1-3 years.

The predominance of locally produced complementary foods compared to manufactured ones is related to the employment of mothers of toddlers. Most mothers are housewives or farmers, spending most of their time at home. Mothers have more time to prepare and process complementary foods for their toddlers..

Although the majority of complementary feeding was prepared independently, the incidence of malnutrition in these 37 toddlers is likely related to other factors, namely the variety or diversity of complementary feeding. This could also be linked to mothers' limited knowledge about the diversity of complementary feeding methods. This lack of knowledge can lead to families not providing a variety of foods daily, creating an imbalance between nutritional intake and body needs.

Based on the form of complementary feeding, most toddlers are not given complementary feeding in a form appropriate to their age. Some toddlers are given soft complementary feeding at <9 months of age. Furthermore, some toddlers are given soft complementary feeding at >12 months of age. This can be attributed to the low level of education of the mothers, which is still largely low. This is consistent with research conducted by Taufiqqurrahman in 2012, which showed a significant relationship between education level and complementary feeding patterns. A total of 82.9% of inappropriate complementary feeding patterns were mostly found in mothers with primary education, while only 15.4% of mothers with higher education provided inappropriate complementary feeding. The results of Taufiqqurrahman's 2012 study showed that in general, 63.6% of mothers provided inappropriate complementary feeding at the age of 6-8 months. Many mothers have introduced family foods since the age of one year, where the form of food given is solid food. This inappropriate form of complementary feeding (. et al., 2014).

Based on the frequency of complementary feeding, most toddlers in this study were given complementary feeding that was not age-appropriate. Some toddlers were given complementary feeding with the same frequency at ages 6-9 months and 9-12 months. Meanwhile, the frequency of complementary feeding at ages 9-12 months or >12 months should be done more often than at ages 6-9 months. This can be attributed to the low level of education of most mothers, resulting in a lack of knowledge about the importance of providing complementary feeding with a frequency appropriate to the toddler's age. This is in line with research conducted by Taufiqqurrahman in 2012, where 84.6% of highly educated mothers had an appropriate pattern of providing complementary feeding (including in terms of frequency). At ages 12-24 months, 100% of toddlers did not receive complementary feeding with the recommended frequency (3-5 times/day). (. et al., 2014). Similarly, the results of a study conducted by Muhammad Nuh Bin Mohd Rashid in 2017 showed that mothers with good knowledge mostly provide complementary foods with the appropriate frequency. Providing inappropriate complementary foods is not only due to the low frequency of providing the main complementary food, but is also related to the provision of inappropriate snacks. 19 In this study, most toddlers were not given snacks between main meals.

The pattern of complementary feeding (MP-ASI) given, which is largely inappropriate for the age of the toddlers

mentioned above, can be linked to malnutrition. This is what happened to the 50 toddlers in this study. These inappropriate patterns were related to the age at which complementary feeding was first given, the form, and the frequency of complementary feeding. One related factor is low maternal education, which can influence maternal behavior in complementary feeding patterns. Based on the results of this study, efforts can be made to provide education and nutritional counseling regarding complementary feeding patterns that comply with health recommendations.

CONCLUSION

Most (82%) of undernourished toddlers are given complementary foods that are not appropriate for their age. This is where MP-ASI is given before the age of 6 months. There are still 22% of toddlers who are given manufactured MP-ASI. Most of the undernourished toddlers (60%) are given MP-ASI in a form that is not appropriate for their age. Most of the undernourished toddlers are given MP-ASI with a frequency that is not appropriate for their age, namely 95%. Health education and counseling efforts are needed regarding the importance of providing MP-ASI at the age of 6-24 months and the importance of providing MP-ASI in a form and frequency that is appropriate for the toddler's age. Community empowerment efforts are needed to prepare local MP-ASI that is varied and meets the nutritional needs of toddlers.

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