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Research Article

The Effect of Exclusive Breastfeeding History and Infant Feeding (PMBA) On The Nutritional Status of Toddlers Aged 1-5 Years In Sialang Panjang Village

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Abstract: Toddlerhood is a golden period that requires optimal nutritional fulfillment to support toddler growth and development. Exclusive breastfeeding and proper Infant and Child Feeding (PMBA) play an important role in preventing nutritional problems. The Indonesian Toddler Nutritional Status Survey (2024) reported that 150.2 million toddlers (23.2%) experienced stunting, 42.8 million toddlers (6.6%) experienced wasting, 12.2 million toddlers (1.9%) experienced severe wasting, and 35.5 million toddlers (5.4%) experienced overweight (WHO, 2024). Data from the Sialang Panjang Village Health Center in 2024 showed that there were still cases of malnutrition in 6 toddlers, stunting in 7 toddlers, and underweight in 17 toddlers. To determine the effect of the history of exclusive breastfeeding and Infant and Child Feeding (PMBA) on the nutritional status of toddlers aged 1–5 years in Sialang Panjang Village. This study used a quantitative method with an analytical observational design with a cross-sectional approach. A sample of 91 toddlers was selected using simple random sampling. Data were collected through questionnaires, interviews, and anthropometric measurements, analyzed using the Chi-Square test ($p<0.05$). The results showed no significant effect of exclusive breastfeeding history on toddler nutritional status ($p=0.189$). Meanwhile, infant feeding (PMBA) showed a significant effect ($p=0.015$). Strengthening exclusive breastfeeding education programs and mentoring PMBA practices according to WHO recommendations is needed, involving village health workers to support optimal nutritional status of toddlers.

Keywords: Exclusive Breastfeeding; IYCF; Nutritional status; Stunting; Toddler nutrition

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1. Introduction

Toddlers are children over 12 months or under 5 years of age (Rossa et al., 2022). Toddlerhood is a golden period of rapid growth and development, requiring more high-quality nutrition. Toddlers are a group at high risk of malnutrition due to inadequate dietary intake. A healthy diet plays a crucial role in a child's growth and intellectual development, so food consumption directly influences a child's nutritional status, which supports optimal physical and intellectual development (Ariani, 2017).

Nutritional status is a physical condition that reflects adequate nutrition for energy, growth, maintenance, and bodily function (Azzahra, 2022). A toddler's nutritional status is directly influenced by the presence of infectious diseases and dietary patterns. Meanwhile, indirect factors that influence a toddler's nutritional status include family food security, parenting patterns, environmental conditions, access to health services, the child's age and gender, residence, and parental education and occupation (Jasmawati, 2020).

Exclusive breastfeeding is an excellent food for babies to meet their nutritional needs and promote growth, development, and health (Hidayah et al., 2018). According to research conducted by Fitriani et al., 2022, there is a significant relationship between exclusive breastfeeding and infant nutritional status, with a p-value of 0.005.

In addition to exclusive breastfeeding, the nutritional status of toddlers is influenced by various factors, such as infant and young child feeding (IYCF), nutritional knowledge, infectious conditions, and dietary adequacy. A study conducted by Velga Yazia and Ulfa Suryani (2024) found a relationship between complementary feeding patterns and nutritional status in toddlers over 24 months of age.

IYCF is crucial because it can reduce child mortality and improve maternal health. Infants who are not breastfed at all have a 4.2 times higher risk of dying from diarrhea than partially breastfed infants, and 14.2 times higher than exclusively breastfed infants. Furthermore, the risk of death for infants who are not breastfed is 21% higher from birth (Tasmi & Siahaan, 2022).

The Indonesian Toddler Nutritional Status Survey (2024) found that 150.2 million (23.2%) toddlers were stunted, 42.8 million (6.6%) toddlers were wasted, 12.2 million (1.9%) toddlers were severely wasted, and 35.5 million (5.4%) toddlers were overweight (WHO, 2024). According to the Indonesian Ministry of Health, the Health Development Policy Agency (BKPK) stated that the prevalence of stunting in 14.1% of toddlers, underweight in 15.9% of toddlers, wasting in 8.5% of toddlers, and overweight in 4.2% of toddlers (KEMENKES, 2023). Meanwhile, in Riau Province, based on 2023 toddler nutrition data, the prevalence of underweight toddlers was 10.2%, stunting 10.3%, and malnutrition 6.5% (Indonesian Health Survey, 2023).

Data from the Indragiri Hilir Regency Health Office, within the Tembilahan Hulu Community Health Center (Puskesmas) working area, shows that 65 toddlers with nutritional problems were underweight (3.7%), 30 stunting (1.7%), 35 toddlers with malnutrition (2.0%), and 2 toddlers with severe malnutrition (0.1%) (Inhil Regency Health Office, 2023). Data from the Sialang Panjang Village Community Health Center (Puskesmas) showed that 7 toddlers were stunted, 6 were malnourished, and 17 were underweight, for a total toddler population of 146 (Pustu Sialang Panjang, 2024).

Based on the previous statement, the researcher assesses that further study is needed on "The Effect of the History of Exclusive Breastfeeding and Infant and Child Feeding (PMBA) on the Nutritional Status of Toddlers Aged 1-5 Years in Sialang Panjang Village.".

2. Literature Review

Exclusif Breastfeeding

Exclusive breastfeeding means that babies are given only breast milk, without any additional food or drink, except for vitamin and mineral supplements, and medicines in syrup form. This breastfeeding is provided from birth to 6 months of age, as breast milk is sufficient to meet a baby's nutritional needs (Ministry of Health, 2020).

According to the 2021 Basic Health Research (RISKESDAS) data, 52.5% of infants aged 0–6 months in Indonesia are exclusively breastfed, a 12% decrease compared to 2019. The percentage of early initiation of breastfeeding (IMD) has decreased, from 58.2% in 2019 to 48.6% in 2021 (UNICEF, 2022). The Ministry of Health Regulation (2012) states that exclusive breastfeeding is a natural right for babies from birth to 6 months of age, taking into account their growth.

Toddlers who do not receive complete breastfeeding until the first 6 months of life are 30 times more likely to develop severe and fatal diarrhea than babies who are exclusively breastfed. Infants who do not receive pure breast milk also have a higher risk of death due to malnutrition (Sunarto et al., 2022).

Statistical calculations in a study conducted by Fitriani (2022) found a significant relationship between exclusive breastfeeding and infant nutritional status (p=0.005) (Fitriani et al., 2022). This study aligns with research conducted by Dewi Sinambela et al. (2019). In the Teluk Tiram Community Health Center work area, the results showed that there were 8 toddlers without exclusive breastfeeding who were not stunted, and 58 children with stunting. Meanwhile, there were 20 toddlers with exclusive breastfeeding who were not stunted, and 2 children with stunting. The chi-square test yielded a p-value of 0.00, indicating that exclusive breastfeeding has an effect on the incidence of stunting in toddlers.

Pemberian Makanan Bayi dan Anak (PMBA)

WHO and UNICEF have established four key recommendations for Infant and Young Child Feeding (IYCF). First, babies should begin breastfeeding within 30 minutes of birth. Second, babies should be given exclusively breast milk from birth to 6 months of age. Third, complementary feeding (MP-ASI) should be introduced from 6 months to 24 months of age. Fourth, breastfeeding should be continued until the child is 24 months of age or older (Tasmi & Siahaan, 2022).

Providing complementary feeding prematurely, even in sufficient quantities, can have negative consequences if it does not meet the required quantity and quality standards. This can lead to growth disorders, malnutrition, and even the risk of stunting. Therefore, improvements in the portion size and quality of complementary feeding are needed (Tasmi & Siahaan, 2022).

Research conducted by Gustin Siahaan and Lilis Tasmi (2022) explains that the consumption patterns of infant and young child feeding (PMBA) influence the phenomenon of stunting in toddlers aged 6–24 months. Study findings show that most respondents who implemented an age-appropriate PMBA pattern had normal nutritional status based on height for age. Conversely, toddlers who received an age-appropriate PMBA pattern experienced stunting or were categorized as short (Tasmi & Siahaan, 2022).

A study by Pujiati (2021) discussing the relationship between the influence of feeding methods on stunting in children aged 1 to 3 years in the Batu 10 Tanjung Pinang Community Health Center (Puskesmas) work area also supports this research. The findings showed that 11 (63.3%) of respondents had an appropriate diet (Tasmi & Siahaan, 2022). Research conducted by Velga Yazia and Ulfa Suryani (2024) showed that 43.3% of toddlers were malnourished and 56.7% received inappropriate complementary feeding (MP-ASI). Manual test results obtained X2h = 8.492 and X2t = 3.841, so X2h > X2t (Ha is accepted). This means that there is a relationship between the pattern of providing complementary food and the nutritional status of toddlers aged over 24 months (Yazia & Suryani, 2024).

Nutritional Status

The under-five age period is a period of development that is vulnerable to nutritional deficiencies, and nutritional needs must be addressed (Azzahra, 2022). Factors influencing nutritional status are divided into direct and indirect factors. Direct factors affecting toddler nutritional status include infectious diseases and food intake. Meanwhile, indirect factors include access to health services, environmental sanitation, age, gender, residence, education, and employment (Jasmawati, 2020).

According to Hossain (2020), maternal education level is associated with toddler nutritional status. This is supported by Suryani (2017), who found a relationship between education, number of children, family income, and nutritional knowledge at the Payung Sekaki Community Health Center.

An analysis conducted by Agus Daeng et al. (2019) found that stunting is caused by two types of factors: direct and indirect. One direct factor is exclusive breastfeeding. Several factors related to toddler nutritional status include infant and young child feeding patterns (PMBA), nutritional knowledge, infectious conditions, and food intake (Mohammad et al., 2020).

Toddler

A toddler is a child over one year old or under five years old (Rossa et al., 2022). Sutomo and Anggraeni explain that the term toddler encompasses children aged 1-3 years (toddlers) and preschoolers (3-5 years). At this stage, children are still highly dependent on their parents and are in a crucial phase of growth and development, particularly in speaking and walking. What happens during this period will influence the child's subsequent developmental stages. Because this period occurs rapidly and only once in a lifetime, it is often referred to as the golden age (Rossa et al., 2022).

The following factors cause malnutrition or hinder a person's nutritional status: (1) Direct causes include the child's diet and infectious diseases that the child may suffer from; malnutrition is the result of food shortages and disease. (2) Indirect causes include food reserves at home and care for mothers and children, and health services (Afid et al., 2022). Nutritional status is influenced by various factors, such as food intake and infectious diseases, which can have both direct and indirect effects. Economic and family factors also play a role in influencing both factors (Afid et al., 2022).

Research Hypothesis: Is there an Influence of Exclusive Breastfeeding History and Infant and Child Feeding (PMBA) on the Nutritional Status of Toddlers Aged 1-5 Years in Sialang Panjang Village..

3. Proposed Method

This research was quantitative with an observational analytical design and a cross-sectional approach. The subjects were toddlers aged 1-5 years in Sialang Panjang Village. The research method used probability sampling with a random sampling technique using the Slovin formula from a population of 118, a sample of 91 toddlers. The independent variables in this study were the history of exclusive breastfeeding and PMBA, while the dependent variable was the nutritional status of the toddlers. The tools used were anthropometric measurement tools such as digital scales, microtoises, and writing utensils. The research instrument used a breastfeeding and PMBA questionnaire, using data from the toddlers.

This study consisted of two data analysis techniques: 1. Univariate analysis, which was used to explain each variable in the study. The frequency distribution of this study included the history of exclusive breastfeeding and PMBA, nutritional status, gender, child age, mother's age, mother's education, and mother's occupation. 2. Bivariate analysis to examine the effect of the history of exclusive breastfeeding and PMBA on the nutritional status of toddlers aged 1-5 years in Sialang Panjang Village. The test used in this study was the chi square test, which uses the p-value indicator to determine whether a variable has an effect or not. A p-value of <0.05 is considered to have an effect. All data was then processed using Microsoft Excel and further analyzed using the Statistical Program for Social Science (SPSS) application.

4. Results and Discussion

Respondent Characteristics

1**. Univariate Analysis**

a. Maternal Characteristic

1) Maternal Age

Table 1 Frequency Distribution of Age of Mothers of Toddlers.

Maternal Age	Frequency (n)	Percentage (%)
20-29 years	44	48
30-39 years	39	43
40-46 years	8	9
Total	91	100

Sumber: Data Primer

Based on the table above, the majority of the characteristics of the age of mothers of toddlers are in the 20-29 year age group (48%), 30-39 year age group (43%), and the least in the 40-49 year age group (9%).

2) Mother's Education

Table 2 Frequency Distribution of Education of Mothers of Toddlers.

Education	Frequencyi(n)	Percentage (%)
SD	34	37
SMP	27	30
SMA	21	23
S1	9	10
Total	91	100
Education	Frequencyi(n)	Percentage (%)
SD	34	37

Sumber: Data Primer

3) Mother' Occupation

Table 3 Frequency Distribution of Occupations of Mothers of Toddlers.

Job	Frequency (n)	Percentage (%)
IRT	87	96
Teacher	4	4
Total	91	100

Sumber: Data Primer

Based on the table above, most of the mothers' jobs are housewives 87 (96%) and 4 mothers (4%) work as teachers.

b. Characteristics of Toddlers

1) Toddler Age

Table 4 Frequency Distribution of Toddler Age.

Toddler Age	Frequency (n)	Percentage (%)
12-23 month	26	28
24-35 month	31	34
36-47 month	18	20
48-59 month	16	18
Total	91	100

Sumber: Data Primer

Based on the table above, the level of characteristics of toddlers' ages is 28% aged 12-23 months, 34% aged 24-35 months, 20% aged 36-47 months and 18% aged 48-59 months.

2) Gender of Toddler

Table 5 Frequency Distribution of Toddler Gender.

Gender	Frequency (n)	Percentage (%)
Woman	47	52
Man	44	48
Total	91	100

Sumber: Data Primer

Based on the table above, it is known that the toddler age group 1-5 years old who are female is 47 (52%) and the toddler age group who are male is 44 (48%).

3) Nutritional Status of Toddlers

a) Based on BB/U Index

Table 6 Frequency Distribution of Toddler Nutritional Status Based on BB/U Indeks.

Nutritional Status	Frequency (n)	Percentage (%)
Very low weight	9	9
Low weight	21	23
Normal weight	60	66
Risk of overnutrition	1	1
Total	91	100

Sumber: Data Primer

Based on the table above, the nutritional status of toddlers according to BB/U is 9% of toddlers who are very underweight, 23% underweight, 66% normal, and 1% at risk of overweight.

b) Based on TB/U Index

Table 7 Frequency Distribution of Toddler Nutritional Status Based on Height/Age Indeks.

Nutritional Status	Frequency (n)	Percentage (%)
Very short	11	12
Short	35	39
Normal	45	49
Total	91	100

Sumber: Data Primer

Based on the table above, the nutritional status of toddlers according to the TB/U index, toddlers who are very short are 12%, short are 39%, and normal are 49%.

c) Based on the BB/TB Index

Table 8 Frequency Distribution of Toddler Nutritional Status Based on BB/TB Indeks.

Nutritional Status	Frequency (n)	Percentage (%)
Good Nutrition	73	81
Problematic Nutrition	18	19
Total	91	100

Sumber: Data Primer

From the table above, the nutritional status of toddlers aged 1-5 years is illustrated based on the BB/TB index, 81% have good nutrition and 6% have problematic nutrition.

c. History of Exclusive Breastfeeding of Toddlers Aged 1-5 in Sialang Panjang Village

Table 9 Frequency Distribution of History of Exclusive Breastfeeding of Toddlers Aged 1-5 Years in Sialang Panjang Village.

Breastfeeding Needs	Frequency (n)	Percentage (%)
Exclusive breastfeeding	72	79.1
Non-exclusive breastfeeding	19	20.9
Total	91	100

Sumber: Data Primer

Based on the table above, the majority of the sample of 72 (79.1%) toddlers had their breast milk supply fulfilled and 19 (20.9%) toddlers had their breast milk supply not fulfilled.

d. History of Infant and Child Feeding (PMBA) Aged 1-5 Years in Sialang Panjang Village

Table 10 Frequency Distribution of History of Exclusive Breastfeeding of Toddlers Aged 1-5 Years in Sialang Panjang Village.

PMBA Need	Frequency (n)	Percentage (%)
Fulfilled	52	57,1
Not fulfilled	39	42,9
Total	91	100

Sumber: Data Primer

Based on the table above, half of the sample of 52 (57.1%) toddlers had a history of infant and child feeding (PMBA) fulfilled, and 39 (42.9%) toddlers did not fulfill it.

2. Bivariat Analysis

a. The Influence of Exclusive Breastfeeding History on Toddler Nutritional Status

Table 11 The Effect of Exclusive Breastfeeding History on the Nutritional Status of Toddlers Aged 1-5 Years in Sialang Panjang Village.

ASI History	Nutritional Status				Total (n)		P-value	POR
	Good Nutrition		Problematic Nutrition					
	n	%	n	%	n	%		
Exclusive breastfeeding	59	65	13	14	72	79	0,189	1.6 0.496 - 5.299
Non-exclusive breastfeeding	14	16	5	5	19	21		
Total	73	81	18	19	91	100		

Sumber: Data Primer

The table above shows that 81% of toddlers whose breast milk needs are met have good nutritional status, while 19% have problematic nutritional status. Based on the statistical test results, the p-value is 0.189 with a POR of 1.6.

b. The influence of infant and child feeding history (PMBA) on the nutritional status of toddlers

Tabel 1 The Effect of Pemberian Makan Bayi Anak (PMBA) on the Nutritional Status of Toddlers Aged 1-5 Years in Sialang Panjang Village.

PMBA History	Nutritional Gizi				Total (n)		P-value	POR
	Good Nutritional		Problematic Nutrition					
	n	%	n	%	n	%		
Fulfilled	47	51	1	1	52	57	0,015	4.7 1.507 - 14.655
Not Fulfilled	26	29	5	6	39	43		
Total	73	81	6	7	91	100		

Sumber: Data Primer

From the table above, it can be seen that toddlers whose PMBA needs are met have good nutritional status of 81% and problematic nutrition of 19% with a p value of 0.015 and an estimated POR value of 4.7.

The Influence of Exclusive Breastfeeding History on the Nutritional Status of Toddlers Aged 1-5 Years

Based on Table 4.11, of the 91 toddlers who received exclusive breastfeeding, 59 (65%) had good nutritional status, while 13 (14%) experienced nutritional problems. Of those who were not exclusively breastfed, 14 (16%) had good nutritional status, and 5 (5%) had nutritional problems. The statistical test results showed a p-value of 0.189 ($p > 0.05$) and a POR of 1.62 with a 95% CI of 0.496–5.299, thus H0 was accepted. This means there is no significant effect between the history of exclusive breastfeeding and the nutritional status of toddlers aged 1–5 years in Sialang Panjang Village. However, toddlers who were not exclusively breastfed had a 1.6 times greater risk of experiencing nutritional problems than toddlers who were exclusively breastfed.

This study aligns with the results of Makananging et al. (2023) entitled "The Relationship between Exclusive Breastfeeding and Nutritional Status in Toddlers Aged 24–59 Months in the Teling Atas Community Health Center Work Area of Manado City." The results of this study showed a p-value of 0.242, indicating no significant relationship between exclusive breastfeeding and the nutritional status of toddlers aged 24–59 months. This finding is also consistent with the study by Primadevi et al. (2024) entitled "Patterns of Providing Complementary Foods in Relation to the Nutritional Status of Toddlers Aged Over 24 Months." This study found no relationship between exclusive breastfeeding and the incidence of stunting in children aged 6–24 months, with a p-value of 0.283 (>0.05).

The lack of influence of exclusive breastfeeding history on toddler nutritional status may be due to other factors, including maternal education and maternal age. Table 4.2 shows the average frequency distribution of elementary school education for mothers at 37%, while only 10% of mothers with a bachelor's degree. This explains that the majority of mothers of toddlers in Sialang Panjang Village still have a low level of education. Therefore, it is suspected

that the underlying cause of their toddlers' nutritional problems stems from their mothers' education. The lower the mother's education, the lower their knowledge, including parenting patterns, breastfeeding frequency, and the nutritional needs of mothers during breastfeeding.

This is in line with the theory that maternal education plays a crucial role in the nutritional status of toddlers. Increasing maternal education positively impacts the quality of human resources, as mothers with higher education tend to have children with better nutritional status (Tazinya et al., 2018). Mothers with a high level of education and adequate access to information typically have better knowledge and skills in caring for toddlers.

The results of this study also align with research conducted by Shaputri & Dewanto (2023) on "The Relationship between Maternal Education and the Nutritional Status of Children Aged 1 Year 6 Months to 2 Years at Sumber Waras Hospital," with a p-value of 0.003 (<0.05), indicating a significant relationship between maternal education level and the nutritional status of children aged 1 Year 6 Months to 2 Years. These results also align with research by Armalini (2021) entitled "The Relationship between Maternal Education Level and Parenting Patterns with the Nutritional Status of Toddlers in Marunggi Village, Marunggi Community Health Center Work Area, 2021." The study showed a p-value of 0.00, indicating a significant relationship between maternal education level and parenting practices and the nutritional status of toddlers in the Marunggi Community Health Center (Puskesmas) work area.

Based on the analysis, another contributing factor to toddler nutritional problems in Sialang Panjang Village is maternal age. Table 4.1 shows that the highest prevalence of maternal age was among mothers aged 20-29 (48%), while the lowest prevalence was among mothers aged 40-46 (9%).

Formal education is often associated with a person's level of knowledge. The higher a mother's education, the greater her knowledge of health issues. This can encourage mothers to adopt a healthy lifestyle and take preventive measures against diseases in children under two years old (Rohmah, 2016).

Anizah's (2021) study, "Overview of Maternal Characteristics and Nutritional Status of Infants Under 2 Years of Age in Mojosari Village, Kalitidu District, Bojonegoro," showed that most mothers with children under two were aged 21–30 years (61.11%) and married at the age of 20–25 years (62.96%). These results are in line with the study of Zaidah et al. (2024) entitled "The Relationship between Maternal Characteristics and Nutritional Status of Toddlers in the Imbanagara Community Health Center Area, Ciamis Regency." The study showed a relationship between maternal age and nutritional status of toddlers, with a p value of 0.000 ($p < 0.005$) and a correlation coefficient of 0.416, which is considered a moderate relationship. This study found no significant effect between exclusive breastfeeding history and toddler nutritional status. However, in theory, exclusive breastfeeding remains the main recommendation from various health organizations, both national and international. According to the World Health Organization, exclusive breastfeeding for the first six months of life is one of the most effective and cost-effective nutritional interventions for improving child health, reducing morbidity, and preventing nutritional problems in toddlers (WHO, 2021). Exclusive breastfeeding plays a crucial role in supporting child growth and development. Breast milk is the primary source of nutrition for infants because it contains complete, easily absorbed nutrients, and meets their needs. Children who are exclusively breastfed have more stable growth and development, as well as stronger immune systems.

Research by Hernandez Luengo et al. (2019) states that the first two years of a child's life are a critical period for health and growth, all of which are linked to nutritional status. Exclusive breastfeeding provides numerous health benefits and is considered the gold standard in infant feeding.

The Influence of Infant and Child Feeding History (PMBA) on the Nutritional Status of Toddlers Aged 1-5 Years

Table 4.12 shows the statistical test results indicating an effect of infant feeding history (PMBA) on toddler nutritional status, with a p-value of 0.015 (<0.05), POR = 4,700, IC95 = 1,507 - 14,655. The results of toddler height and weight measurements conducted during the study indicate that the majority of toddlers had normal nutritional status, 51% had PMBA that was not met, 29% had it not met, and those with problematic nutritional status had 1% of PMBA that was met and 6% that was not met. Unmet infant feeding history (PMBA) was proven to affect toddler nutritional status, while those who were met were 4.7 times more likely to have good nutritional status.

The results of this analysis demonstrate that toddlers who received PMBA properly tended to have better nutritional status compared to toddlers whose PMBA was not met. This is understandable because feeding infants and children is a crucial phase after the end of exclusive breastfeeding. If PMBA practices are implemented properly, for example in terms of quantity, frequency, variety, and food hygiene, children will receive a more balanced nutritional intake. Conversely, if PMBA practices are not implemented properly, children are at risk of nutritional deficiencies or inappropriate eating patterns, which can impact nutritional status. Infant and child feeding (PMBA) in Sialang Panjang Village has been practiced well and correctly, as evidenced by the results of the researchers' analysis using the PMBA questionnaire indicators containing questions about PMBA practice history. The results are shown in Table 4.10. 52 (57.1%) toddlers had their PMBA met, while 39 (42.9%) were not met.

This analysis aligns with research conducted by Apriani & Oklaini (2022) on "The Effect of Infant and Child Feeding (PMBA) and Balanced Nutrition Education on Weight Gain in Undernourished Toddlers in the Simpang Pandan Community Health Center Work Area." The results showed that infant and child feeding and balanced nutrition education had an effect on weight gain in undernourished toddlers, as indicated by a p-value of 0.000 < 0.05, with a mean pre-test score of 10.53 < mean post-test score of 10.81. Based on these results, it can be concluded that infant and child feeding and balanced nutrition education are effective in increasing weight in undernourished toddlers.

This research aligns with research by Johanesta Novianti Belang et al. (2025) on "Factors Associated with PMBA and the Nutritional Status of Toddlers in Oeltua Village, Kupang Regency," which showed that infant and child feeding had a significant relationship with the nutritional status of toddlers (p=0.016). This study supports the findings of the researchers because it shares several similarities, including the dependent and independent variables, the same research location in the village, and the chi-square test. This research aligns with research conducted by Gunawan et al. (2022) on "The Relationship Between Knowledge and Practice of Infant and Child Feeding (PMBA) and the Use of Iodized Salt with the Incidence of Stunting" with a p-value of 0.001 (<0.005), indicating a significant relationship between infant and child feeding history and the incidence of stunting (Gunawan et al., 2022).

In theory, Infant and Young Child Feeding (PMBA) is a highly recommended gold standard because it has been proven effective in reducing child mortality and improving maternal well-being. The risk of death from diarrhea in infants who are not breastfed at all is 4.2 times greater than those who are partially breastfed, and 14.2 times greater than babies who are fully breastfed. Infants who are not breastfed have a 21% higher risk of death at birth (Tasmi & Siahaan, 2022).

WHO and UNICEF have established four key recommendations for Infant and Young Child Feeding (IYCF). First, babies should be breastfed within 30 minutes of birth. Second, babies should be exclusively breastfed from birth to 6 months of age. Third, complementary

foods should be introduced from 6 months to 24 months of age. Fourth, breastfeeding should be continued until the child is 24 months old or older (Tasmi & Siahaan, 2022).

6. Conclusions

Based on the results and discussion above, the following conclusions can be drawn:

1. The history of exclusive breastfeeding in toddlers aged 1-5 years in Sialang Panjang Village is as follows: 72 toddlers (79.1%) received exclusive breastfeeding until 6 months of age, while 19 (20.9%) did not receive exclusive breastfeeding.
2. The history of infant and young child feeding (PMBA) met nutritional standards, with 52 toddlers (57.1%) meeting them, while 39 toddlers (42.9%) did not.
3. The results of the bivariate analysis showed no significant effect between the history of exclusive breastfeeding and the nutritional status of toddlers aged 1-5 years in Sialang Panjang Village, with a p-value of 0.189 (>0.005).
4. There was a significant effect between the history of PMBA and the nutritional status of toddlers aged 1-5 years in Sialang Panjang Village, with a p-value of 0.015 (<0.005).

Suggestions

1. For Researchers: It is necessary to increase knowledge related to data collection ethics and proper measurement methods.
2. For Future Researchers: It is hoped that future researchers can use this thesis as a reference, expand their research sample to obtain more significant results and identify new variables.
3. For Research Facilities: It is hoped that the results of this study can serve as a reference in developing a program.

References

Anizah, H. I. (2021). Gambaran karakteristik ibu dan status gizi bayi di bawah usia 2 tahun di Desa Mojosari, Kecamatan Kalitidu, Bojonegoro. *Info Kesehatan, 11*(2), 367–374.

Apriani, W., Waytherlis, & Oklaini, S. T. (2022). Pengaruh pemberian makanan bayi, anak (PMBA) dan edukasi gizi seimbang terhadap peningkatan berat badan pada balita gizi kurang di wilayah kerja Puskesmas Simpang Pandan. *Jurnal Kesehatan Saintika Meditory, 4*(4657), 78–84.

Ariani, A. P. (2017). *Ilmu gizi*. Nuha Medika.

Armalini, R. (2021). Hubungan tingkat pendidikan ibu dan pola asuh dengan status gizi balita di Desa Marunggi wilayah kerja Puskesmas Marunggi tahun 2021. *As-Shiha Journal of Medical Research, 2*(2).

Azzahra, K. (2022). Hubungan pemberian ASI eksklusif dengan status gizi bayi usia 6-12 bulan di wilayah kerja Puskesmas Ketrowono-joyo Kabupaten Pacitan. *Braz Dent J., 33*(1), 1–12.

Fitriani, A., Us, H., & Mauyah, N. (2022). Pemberian ASI eksklusif dan usia pemberian makanan pendamping ASI dengan status gizi bayi usia 6-12 bulan. *Jurnal Keperawatan Silampari, 6*(1), 810–817. https://doi.org/10.31539/jks.v6i1.4629

Gunawan, H., Fatimah, S., & Kartini, A. (2022). Hubungan pengetahuan dan praktik pemberian makan bayi dan anak (PMBA) serta penggunaan garam beryodium dengan kejadian stunting. *Jurnal Kesehatan Masyarakat (Undip), 10*(3), 319–325. https://doi.org/10.14710/jkm.v10i3.32765

Hidayah, N., Kasman, K., & Mayasari, M. (2018). Faktor-faktor yang berhubungan dengan status gizi di wilayah kerja UPT Puskesmas Kertak Hanyar Kabupaten Banjar. *An-Nadaa: Jurnal Kesehatan Masyarakat, 5*(1). https://doi.org/10.31602/ann.v5i1.1645

Jasmawati. (2020). Faktor-faktor yang mempengaruhi status gizi balita: Systematic review. *22*(10), 180–185.

Johanesta Novianti Belang, A. H. T., & Sarci Magdalena Toy. (2025). Faktor-faktor yang berhubungan dengan PMBA serta status gizi baduta di Desa Oeltua Kabupaten Kupang. *SEHATMAS: Jurnal Ilmiah Kesehatan Masyarakat, 4*(1), 65–76. https://doi.org/10.55123/sehatmas.v4i1.4516

Kementerian Kesehatan Republik Indonesia, Badan Kebijakan Pembangunan Kesehatan. (2023).

Makananging, S., Asrifuddin, A., & Kandou, G. D. (2023). Hubungan antara pemberian ASI eksklusif dengan status gizi pada balita usia 24-59 bulan di wilayah kerja Puskesmas Teling Atas Kota Manado. *4*(September), 4488–4494.

Oktavira, L. (2020). Hubungan pengetahuan gizi dan asupan zat gizi makro dengan kejadian overweight pada siswa SDN Kenari 01 Jakarta Pusat tahun 2020.

Primadevi, I., Akhmad Gurnida, D., & Fadlyana, E. (2024). Hubungan antara praktik pemberian makan bayi dan anak (PMBA) pada baduta usia 6-24 bulan dengan kejadian stunting. *Jurnal Maternitas Aisyah (JAMAN AISYAH), 5*(1), 30–38. https://doi.org/10.30604/jaman.v5i1.1539

Puskesmas Pembantu Desa Silang Panjang. (2024).

Rohmah, N. (2016). Penggunaan air bersih dan jamban sehat dengan kejadian diare pada balita di wilayah kerja Puskesmas Sekardangan Kabupaten Sidoarjo.

Rossa, D. G., Abimetan, F. O., & Kurnia, E. (2022). Literature review: Analisis kesehatan gizi balita di Indonesia. *JARSI: Jurnal Administrasi RS Indonesia, 1*(1), 1–6.

Shaputri, W. E., & Dewanto, N. E. (2023). Hubungan antara pendidikan ibu dengan status gizi anak usia 1 tahun 6 bulan sampai 2 tahun di RS Sumber Waras. *HIJP: Health Information Jurnal Penelitian, 27*(2), 58–66. https://myjurnal.poltekkes-kdi.ac.id/index.php/hijp

Ssentongo, P., Ssentongo, A. E., Ba, D. M., Ericson, J. E., Na, M., Gao, X., Fronterre, C., Chinchilli, V. M., & Schiff, S. J. (2021). Global, regional, and national epidemiology and prevalence of child stunting, wasting, and underweight in low- and middle-income countries, 2006–2018. *Scientific Reports, 11*(1), 1–12. https://doi.org/10.1038/s41598-021-84302-w

SSGI. (2022). *Survei Status Gizi Indonesia (SSGI) 2022* (p. 5).

Survey Kesehatan Indonesia (SKI). (2023). *Survei Kesehatan Indonesia 2023 (SKI)*. Kemenkes, 235.

Tasmi, L., & Siahaan, G. (2022). Hubungan pola pemberian makanan bayi dan anak (PMBA) usia 6-24 bulan dalam upaya penurunan risiko stunting di Desa Sungai Jernih Kabupaten Muratara tahun 2022. *Jurnal Kesehatan Ibu dan Anak (KIA), 1*(2), 47–51.

Tazinya, A. A., Halle-Ekane, G. E., Mbuagbaw, L. T., Abanda, M., Atashili, J., & Obama, M. T. (2018). Risk factors for acute respiratory infections in children under five years attending the Bamenda Regional Hospital in Cameroon. *BMC Pulm Med, 18*(1), 1–8.

WHO. (2021). Hypertension. *World Health Organization*. https://www.who.int/news-room/fact-sheets/detail/hypertension. Accessed October 2021.

World Health Organization. (2024). Obesity and overweight. Available from: https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight

Yazia, V., & Suryani, U. (2024). Pola pemberian makanan pendamping ASI berhubungan dengan status gizi balita usia di atas 24 bulan. *Jurnal Keperawatan, 16*, 95–106.

Zaidah, N., Fathwa, A. M. G., & W, I. H. (2024). Hubungan karakteristik ibu terhadap status gizi balita di wilayah Puskesmas Imbanagara Kabupaten Ciamis. *Malahayati Nursing Journal, 6*(1), 355–366. https://doi.org/10.33024/mnj.v6i1.12849

Zulmi, D. (2019). Hubungan antara pemberian ASI eksklusif dengan status gizi balita di wilayah kerja Puskesmas Warunggunung tahun 2018. *Jurnal Medikes (Media Informasi Kesehatan), 6*(1), 69–76. https://doi.org/10.36743/medikes.v6i1.161