Darussalam Nutrition Journal, Mei 2025, 9(1):37-50 *P- ISSN 2579-8588*
DOI: 10.21111/dnj.v9i1.12793 *E-ISSN 2579-8618*

THE RELATIONSHIP BETWEEN PARENTAL FEEDING PATTERN WITH THE INCIDENCE OF STUNTING IN TODDLERS IN GLAGAHWERO VILLAGE, KALISAT DISTRICT, JEMBER REGENCY

Galih Purnasari[1]*, Nila Anjani[1]

[1] Politeknik Negeri Jember, Jawa Timur, Indonesia
*email correspondence: galih_purnasari@polije.ac.id

ABSTRACT

Background*: The prevalence of stunting in Indonesia reached 21.6%. Stunting not only caused by unbalanced food intake, but multi-factorial. These factors are related to parental feeding patterns, food access, health service access, environmental sanitation, education level, and household income level.* ***Objectives****: The purpose of this study was to determine the relationship between parental feeding patterns, namely the history of exclusive breastfeeding, history of complementary, eating frequency, and variety of food ingredients with the incidence of stunting in toddlers in Glagahwero Village, Kalisat District, Jember Regency.* ***Methods****: Quantitative research with a cross-sectional research design was used. Forty-nine toddlers were obtained using a simple random sampling technique based on Lwangga and Lemeshow's formula (1997). The data collection of this study used questionnaires on the history of exclusive breastfeeding, the history of MP-ASI, the accuracy of toddler meal frequency, and the accuracy of food variety. The statistical analysis used was the Chi-Square test.* ***Results****: There was a relationship between meal frequency and food variety (p = 0.003), and there was no relationship between the history of exclusive breastfeeding (p = 0.556), history of MP-ASI (p = 0.786) with the incidence of stunting in toddlers in Glagahwero Village, Kalisat District, Jember Regency.* ***Conclusion****: Eating frequency and the consumption of diverse food items are associated with the incidence of stunting in toddlers. As part of efforts to prevent stunting, promoting optimal feeding practices, including meal frequency and food variety, is crucial for pregnant women and mothers of toddlers*

Key words: eating frequency, history of exclusive breastfeeding, history of complementary feeding, stunting incidence, variety of food ingredients

INTRODUCTION

The nutritional problems faced by the world are not only obesity and wasting, but stunting is also a fairly serious nutritional problem (Januarfitra & Kurniawati, 2022). Stunting is a condition where a toddler has a shorter height or length than children of the same age. Children who experience stunting can be seen by assessing their nutritional status using the Z-Score on the Height/Age Index (TB/U) with a threshold value of <-2 Standard Deviations (SD) (Kementerian Kesehatan RI, 2018). In 2017, the prevalence of stunting internationally reached 22.2%, or around 150.8 toddlers, who are still experiencing stunting (UNICEF et al., 2018). Based on data from the Basic Health Research Results (RISKESDAS) in 2018, the prevalence of stunting in Indonesia was 30.8% (Balitbangkes RI, 2018). Based on the results of the 2021 Indonesian Nutritional Status Study (SSGI), 24.4% of toddlers in Indonesia still suffer from stunting. However, data from the 2022 Indonesian Nutrition Status Study (SSGI) showed a decrease in stunting rates, which was 21.6%.

Data from the 2022 Indonesian Nutrition Status Study (SSGI), the stunting rate in East Java was 19.2%, with the highest prevalence of stunting

in Jember Regency reaching 34.9%, which is the highest in East Java Province (Kementerian Kesehatan Republik Indonesia, 2022). Compared to the national target, which is that in 2024 the stunting rate in Indonesia will be 14%, the stunting rate in Jember is still high (National Development Planning Agency (Bappenas), 2020).

According to the United Nations Children's Fund (UNICEF), one of the factors causing stunting in toddlers is an unbalanced food intake (UNICEF, 2020). One of the factors causing stunting is parenting patterns. Parental feeding patterns are a form of practice applied by mothers to children, related to the child's situation when eating and the child's way of eating, as well as the frequency of food to meet the energy needs needed (Novianti et al., 2022). One of the things included in the parenting patterns given to mothers is exclusive breastfeeding. There is a significant relationship between exclusive breastfeeding and the incidence of stunting (Dahliansyah et al., 2020). Toddlers who are not exclusively breastfed by their mothers are at 61 times greater risk of experiencing stunting, compared to toddlers who receive exclusive breastfed for 6 months (Nur et al., 2022). In addition to the history of breastfeeding, the practice of providing complementary feeding to toddlers is related to the incidence of stunting. In the practice of complementary feeding that is not by the recommendations, there is a 7.87 times greater risk of experiencing stunting (Amalia et al., 2022).

Providing complementary feeding to toddlers also indicates that toddlers are starting to learn to eat. The quantity and quality of food can be known as how varied the food is consumed at the individual and household levels. It also works to evaluate the nutritional adequacy of individuals and households (Krasevec et al., 2017). Providing varied food for toddlers can support motor development and prevent mental disorders (Ruwiah et al., 2019). This finding aligns with research conducted by (Oktafirnanda & Pratiwi Harahap, 2018), which revealed a significant correlation between food variety and stunting incidents. Children consuming varied diets without stunting accounted for 72.5%, whereas those with limited diets experiencing stunting accounted for 27.5%.

A mother not only pays attention to providing a variety of food to her toddler, but the mother must also pay attention to the frequency of eating or how often the mother gives food to her child. Toddlers have a very different frequency of eating from adults because the portion of food and nutritional needs of toddlers are less than those of adults (Moehji, 2017). Toddlers with poor eating frequency have a 2.208 times greater risk of stunting, compared to toddlers with good eating frequency (Aghadiati et al., 2023).

Glagahwero Village is one of the villages in Kalisat District, Jember Regency, East Java Province. Glagahwero has an administrative area of 473,012 Ha. According to data from the village office, the population of Glagahwero Village is 7,353 people. The majority of the population of Glagahwero Village are housewives, farm laborers, self-employed, and traders. Based on the results of a preliminary study conducted in Glagahwero Village, Kalisat District, Jember Regency, it was found that the monthly weighing data from the Kalisat Health Center in February 2024, Glagahwero Village was included in the villages that still had high stunting rates. Some underlying causes of these

nutritional problems include infectious diseases, food taboos, mothers' unpreparedness to realize knowledge related to good parenting patterns, and some cultures of newborns, namely being given food or drinks other than breast milk, such as honey. From the problems in Glagahwero Village, it is necessary to conduct a study related to parenting patterns in the form of a history of exclusive breastfeeding, a history of giving complementary feeding, variations in food ingredients, and frequency of eating given by mothers to toddlers in Glagahwero Village, Kalisat District, Jember Regency.

METHOD

The type of this research is quantitative research with a cross-sectional research design. The research was conducted in Glagahwero Village, Kalisat District, in May 2024. The population used in this study was 358 toddlers aged 12-59 months. Based on Lwangga and Lemeshow's formula (1997), this study's minimum sample size is 44 subjects. The researcher added a sample of 10% to anticipate dropouts and the total of the samples is 49 subjects.

The ethical approval for this research was obtained in accordance with the guidelines established by The Ethics Committee of the State Polytechnic of Jember. Upon submission, the research proposal underwent a comprehensive evaluation by the ethics committee, which scrutinized various aspects of the study, including participant recruitment, informed consent procedures, confidentiality measures, and potential risks. This research has obtained ethical approval with the reference number 337/PL17.4/PG/2024.

The simple random sampling method was used to obtain the subjects. The research subjects were identified from a list of children aged 12 – 59 months, complied with the assistance of the cadres. The names were randomized using a name randomization application, and the selected names were added to the subject list. The researcher then conducted home visits, facilitated by the cadres, to administer interviews and questionnaire to the selected subjects. The subjects must meet the inclusion criteria and exclusion criteria. The inclusion criteria are the mothers and toddlers who lived in Glagahwero Village, the toddlers who were 12 - 59 months old and could stand, the mothers of the toddlers willing to be respondents, and the mothers of the toddlers who are not working or who are working but not busy as respondent. The exclusion criterion is the mother of the toddlers who cannot follow the entire research process.

The independent variables in this study are exclusive breastfeeding history, complementary feeding history, frequency of eating, and food variety. The instruments used in this study were anthropometric measurements of height using a microtoice, a questionnaire to determine the history of exclusive breastfeeding and complementary feeding, variations in food ingredients, and frequency of toddler meals as primary data.

This study utilized primary data from questionnaires focusing on exclusive breastfeeding history, complementary feeding (MP-ASI) history, eating frequency, and food variety. The exclusive breastfeeding questionnaire categorized responses as "yes" if subjects received exclusive breastfeeding from their mothers with no additional food or drinks until six

months, and "no" otherwise. Complementary feeding was categorized as "correct" if initiated at six months and "incorrect" if initiated before or after six months. For eating frequency and food variety among toddlers, five statements offered response options: Very Often, Often, Rarely, and Never. Scores were then categorized into "correct" (55%-100%) and "incorrect" (<55%).

The questionnaire employed in this research underwent minor modifications based on previous research. The exclusive breastfeeding questionnaire was adapted from (Wahyuningsih, 2021) with two questions modified to ensure validity and reliability, as confirmed by SPSS analysis (Cronbach Alpha : 0.81-1.00). Similarly, questions related to eating frequency and food variety were adapted from (Prakhasita, 2019), modified from the Child Feeding Questionnaire (CFQ). Validity testing of the eating frequency and food variety questionnaire yielded satisfactory results (r count > r table), with all questions demonstrating validity. Reliability testing of the eating frequency questionnaire yielded a score of 0.911 (highly reliable), while the food variety questionnaire yielded a score of 0.902 (highly reliable). The questionnaire used to assess the history of MP-ASI administration was obtained from (IDAI, 2018) without modification.

The data from secondary sources will be assembled from the Jember Regency Health Office, Kalisat Health Center, and Glagahwero Village Integrated Health Post (Posyandu). The researcher visited the respondents' homes after collecting the names of the respondents to randomize them first. The analysis technique used is univariate analysis to obtain a picture of each research variable and bivariate analysis technique using the Chi-Square test on SPSS with a p-value <0.05

RESULTS AND DISCUSSION

According to the study findings shown in Table 1, most of the subjects are male, totaling 30 (61.2%), while 19 subjects (38.8%) are female. The age distribution reveals that most subjects (85.7%) are within the 25-59 months range. Alongside age and gender, key birth characteristics such as birth weight and length are also documented. The data indicate that 93.9% of the subjects were born with a normal birth weight. Range between 2500 and 4000 grams. This suggests that most toddlers in the study started with healthy birth weights. The detailed characteristics offer valuable insights into the general health and demographics of the sample group, highlighting gender, age, and birth conditions as critical factors in understanding toddler growth patterns.

Table 1 presents data on the socio-economic demographics of the respondents, revealing key insights into their educational and occupational backgrounds. A significant portion of respondents (32.7%) have completed their education up to junior high school, which appears to be the highest level attained by most participants. Additionally, the occupation data show that a majority, accounting for 73.5% or 36 subjects are housewives, suggesting that many come from households where respondent is prioritized over employment outside the home. These socio-economic characteristics may play a role in the broader health and development of the children in these households. One particular health condition of interest is stunting, a growth issue observed in toddlers characterized by shorter-than-average height or body length when compared to

children of the same age group. Stunting can be influenced by factors such as nutrition, respondent practices, and overall socio-economic conditions, which are important to consider in assessing child health outcomes in this population (Rahut et al., 2024).

The research data summarized in Table 1 indicate that 46.9% of the subjects are affected by stunting based on their Z-Score measurements for length-by-age (L/A) and height-by-age (H/A), placing them within the stunted or severely stunted categories. More specifically, 22.4% of the subjects, fall into the severely stunted range, highlighting a significant growth delay level in this subgroup. On the other hand, 53.1% of subjects have Z-Scores for L/A and H/A within normal ranges, suggesting typical growth patterns for their age. These findings underscore that nearly half of the study's toddler participants face stunted growth, with a portion severely affected, which could reflect underlying issues such as nutritional deficits or other socio-economic factors (Hidayat, 2018).

Table 1. Frequency Distribution of Subjects and Respondents Characteristics

Subjects and Respondent Characteristic	(f)	(%)
Gender of Subjects		
Male	30	61.2
Female	19	38.8
Age of Subjects		
12 - 24 month	7	14.3
25 - 59 month	42	85.7
Birth Weight of Subjects		
Normal	46	93.9
Low	3	6.1
Birth Length of Subjects		
Normal	45	91.8
Short	4	8.2
Level Education of Respondents		
Elementary School	10	20.4
Junior High School	16	32.7
High School	14	28.6
University	9	18.4
Profession of Respondents		
Farmer	1	2.0
Teacher	4	8.2
Repository worker	2	4.1
Businessman	6	12.2
Housewives	36	73.5

According to Table 2, most of the respondents from Glagahwero Village practiced exclusive breastfeeding. Approximately 65.3% of subjects received exclusive breastfeeding, while 34.7% did not. These respondents reported that they chose to introduce porridge and formula milk to their children before they reached six months of age. The decision to incorporate these alternatives highlights a common practice among some parents who believe that early exposure to a variety of foods is beneficial for their child's development. Additionally, it is important to note that complementary feeding, which begins at six months, consists of foods rich in essential nutrients necessary for a child's growth and health. The transition to

complementary feeding is critical, as it ensures that infants receive a balanced diet that supports their developmental needs as they grow (Panggabean et al., 2024). The data illustrate the varying approaches to infant feeding in the village, emphasizing the need for education and guidance on the benefits of exclusive breastfeeding and proper timing for introducing complementary foods.

The interview data summarized in Table 1 indicate that a substantial proportion of subjects, specifically 71.4% began providing complementary feeding to their toddlers at the appropriate age of six months. However, 28.6% of the subjects did not receive complementary feeding as recommended, highlighting a significant gap in nutritional practices among some respondents. Among these, 12.2% of toddlers were introduced to complementary foods before they reached six months, which is considered too early for optimal health. In contrast, 16.3% of toddlers received complementary feeding for a duration exceeding six months, suggesting that some respondents are extending this practice beyond the recommended timeframe. This variation in complementary feeding practices underscores the differing levels of adherence to nutritional guidelines within the community. The findings highlight the importance of education for parents regarding the appropriate timing and duration of complementary feeding, as these factors are crucial for ensuring that toddlers receive the necessary nutrients for healthy growth and development. Overall, the data reflect both positive practices and areas needing improvement in the management of toddler nutrition in the surveyed population.

According to Table 2, the distribution of food frequency provided to subjects shows that a notable 65.3% of respondents are accurately adhering to recommended feeding practices for their children. This indicates a significant level of understanding and implementation of proper feeding frequency among the respondents surveyed. However, about 34.7% of subjects did not meet the appropriate guidelines for feeding frequency, suggesting that there is room for improvement in this area. The discrepancies in feeding practices highlight the need for continued education and support for respondents to ensure they fully understand the importance of regular and appropriate meal timings for toddlers. Adequate feeding frequency is crucial for a child's nutritional intake and overall growth, as it helps establish healthy eating habits early on (Nabuasa, 2024). By addressing the gaps in knowledge among the respondents who are struggling to provide proper feeding frequency, it may be possible to enhance the dietary practices within the community. Ultimately, the findings underscore the importance of promoting awareness and understanding of optimal feeding schedules to support the health and development of toddlers.

Table 2 outlines the distribution of how accurately respondents provide food variation for toddlers, revealing that 61.2% of subjects successfully implement a diverse daily diet based on their interview responses. This indicates a commendable level of awareness and commitment to nutritional diversity among a majority of the respondents surveyed. However, it is concerning that 38.8% of subjects are still not offering their toddlers a varied selection of foods, which highlights a significant gap in nutritional practices within this

group. The concept of food variation is essential, as it encompasses the range of foods consumed and aligns with the principles of the Four Pillars of Balanced Nutrition. These guidelines emphasize the necessity of incorporating a variety of food types into a child's diet to ensure they receive the essential nutrients required for healthy growth and development. The lack of food diversity among a notable portion of respondents suggests a need for enhanced education and resources to promote better dietary practices (Idayanti et al., 2024). Addressing this issue is vital for fostering healthy eating habits in toddlers and supporting their overall well-being. By improving respondents' understanding of the importance of food variation, we can work toward ensuring that all toddlers receive the balanced nutrition they need.

The findings presented in Data Table 3 indicate that there is no significan correlation between the history of exclusive breastfeeding and the incidence of stunting among toddlers. This conclusion is drawn from the results of a Chi-square statistical test, which was conducted to examine the relationships between parenting practices, eating patterns, and the occurrence of stunting in young children. The analysis revealed a p-value of 0.556, which exceeds the threshold of 0.05 (0.556 > 0.05) with odds ratio results only 0.7, thereby suggesting a lack of significant association between exclusive breastfeeding and stunting rates with lower risk profile of non-breastfeeding young children could affected stunting. Interestingly, the data also show that 32.7% of the toddlers identified as stunted had a history of receiving exclusive breastfeeding, a figure that is higher than the percentage of stunted toddlers who did not receive exclusive breastfeeding.

The findings of this study align with the research conducted by (Ahmad Rizal, and Yunita, 2023), which examined the relationship between exclusive breastfeeding and stunting among toddlers in Bengkulu City. Their analysis revealed a chi-square statistical test result with a p-value of 0.842, indicating that there is no significant relationship between exclusive breastfeeding and the incidence of stunting in this population, as the p-value exceeds the 0.05 threshold. Similarly, the results of this study correspond with those of (Maesarah et al., 2021), who also performed a chi-square test and found a p-value of 0.965. This result further supports the conclusion that the history of exclusive breastfeeding does not significantly correlate with the occurrence of stunting in toddlers.

Based on the interviews, village midwives conduct routine monitoring to ensure that mothers receive adequate guidance regarding breastfeeding practices. Several factors hindered the provision of exclusive breastfeeding to some toddlers. These factors included limited maternal knowledge about the benefits of exclusive breastfeeding and prevailing cultural beliefs that encouraged early introduction of complementary foods. In addition, inadequate support from family members and community health workers often reduced mothers' confidence in sustaining exclusive breastfeeding for six months.

Table 2. Distribution of Stunting Incidents in Subjects and The Parental Eating Patterns Variables in Glagahwero Village, Kalisat District

Stunting Incidents	**(f)**	**(%)**
Stunting	23	46.9
Normal	26	53.1
Parental Eating Patterns Variables	**(f)**	**(%)**
History of Exclusive Breastfeeding		
Exclusive Breastfeeding	32	65.3
Non Exclusive Breastfeeding	17	34.7
History of Complementary Feeding		
Optimal Complementary Feeding	35	71.4
Suboptimal Complementary Feeding	14	28.6
Eating Frequency		
Adequate Eating Frequency	32	65.3
Inadequate Eating Frequency	17	34.7
Food Variation		
Adequate Food Variation	30	61.2
Inadequate Food Variation	19	38.8
Total	**49**	**100**

Table 3. The Relationship between Parenting Eating Patterns and the Incidence of Stunting in Toddlers in Glagahwero Village, Kalisat District

Variable		**Incidents of Stunting in Toddlers**				**Total**		**p-value**	**Odds Ratio (OR)**
		Stunting		**Normal**					
		n	**%**	**n**	**%**	**n**	**%**		
History of Exclusive Breastfeeding	Exclusive Breastfeeding	16	32.7	16	32.7	32	65.3	0.556	0.7
	Non Exclusive Breastfeeding	7	14.3	10	20.4	17	34.7		
History of Complementary Feeding	Optimal Complementary Feeding	16	32.7	19	38.8	35	71.4	0.786	1.188
	Suboptimal Complementary Feeding	7	14.3	7	14.3	14	28.6		
Food Frequency	Adequate Eating Frequency	10	20.4	22	44.9	32	65.3	0.003	7.15
	Inadequate Eating Frequency	13	26.5	4	8.2	17	34.7		
Variety of Food Ingredients	Adequate Food Variation	9	18.4	21	42.9	30	61.2	0.003	6.533
	Inadequate Food Variation	14	28.6	5	10.3	19	38.8		

One significant issue is that some mothers introduce formula milk before their infants reach the recommended age of six months. Furthermore, respondents noted that in hospital settings, particularly for cesarean deliveries, nurses often separate newborns from their mothers shortly after birth and may administer water or honey water, which undermines exclusive breastfeeding efforts. It is also worth noting that socioeconomic conditions play a critical role in determining breastfeeding practices

(Indrayani & Wulandari, 2024).

Families with higher socio-economic status often have better access to quality food resources, which may lead to the early introduction of complementary foods rather than sticking to exclusive breastfeeding. This situation highlights the need for ongoing education and support for mothers, especially regarding the importance of exclusive breastfeeding during the first six months of life. Addressing these challenges requires a multifaceted approach that considers both healthcare practices and the socio-economic context to promote healthier feeding practices among families (Rahmi & Agustina Harahap, 2024).

Based on the results of the analysis of the relationship between the history of complementary feeding provision and the incidence of stunting in toddlers in Glagahwero Village in Table 3, as many as 32.7% of stunted toddlers have received complementary feeding at the right age, namely at the age of 6 months and as many as 14.3% of stunted toddlers received complementary feeding not at the right age. The bivariate analysis using the Chi-square statistical test showed no significant results between the two variables with a p-value of 0.786 greater than 0.05 (0.786 > 0.05) with odd ratio (OR) result 1.188.

The result of bivariate analysis between the history of complementary feeding in children is non-associate with stunting with low probability of risk of children could affected stunting who were incorrectly given complementary feeding by their parents. This research is in line with research conducted by (Khairani & Effendi, 2022) that has a p-value = 1,000 (> 0.05) in the results of the chi-square test of the complementary feeding provision variable with the incidence of stunting can be interpreted that there is no significant relationship between the provision of complementary and the incidence of stunting in toddlers at the Integrated Health Post (Posyandu) in the Padang Serai Health Center work area, Bengkulu City.

The results of this study are in line with research conducted by (Widiastity & Harleli, 2021), as the results of the chi-square test obtained a p-value = 1,000 (> 0.05), which explains that there is no significant relationship between the time of introduction of complementary feeding and the incidence of stunting at the Soropia Health Center. The research interviews found that mothers of toddlers in the Soropia Health Center work area provided complementary to toddlers according to the recommended time, namely after the baby was 6 months old. Several factors associated with both variables show no significant relationship, primarily due to effective communication regarding the appropriate age for introducing complementary feeding.

The information dissemination within the community has been quite successful, ensuring that mother understand when and how to start providing complementary foods to their toddlers. Village midwives and Integrated Health Post (Posyandu) cadres play a crucial role in this process, as they regularly monitor and support mother in implementing proper feeding practices. Their consistent engagement helps reinforce the importance of timely complementary feeding, which is essential for the health and development of young children. This proactive approach not only educates parents but also fosters a supportive environment for best feeding practices. Overall, the collaboration between healthcare

providers and the community contributes to better nutritional outcomes for toddlers, ensuring that they receive the necessary guidance for healthy growth. Village midwives and Integrated Health Post (Posyandu) cadres frequently give monitoring of complementary feeding to toddlers.

The results of the research data in Table 3, the percentage of stunted toddlers with an appropriate history of providing complementary feeding is 32.7%. The percentage of toddlers with normal TB/U (height by age) Z-score with the proper history of providing complementary feeding was 38.8%. The analysis conducted using the Chi-square statistical test revealed a p-value of 0.003, which is significantly lower than the threshold of 0.05 (0.003 < 0.05). This result indicates a significant relationship between the frequency of eating among toddlers and the incidence of stunting. Specifically, 26.5% of stunted toddlers exhibit an inappropriate eating frequency, a higher percentage compared to the 20.4% of stunted toddlers who maintain a proper eating frequency. Furthermore, the odds ratio (OR) for the relationship between eating frequency and stunting stands at 7.15, indicating that toddlers with an inappropriate eating frequency are 7.15 times more likely to experience stunting compared to their counterparts who have an adequate eating frequency.

These findings emphasize the critical importance of proper eating habits during early childhood development, highlighting that inadequate feeding practices can significantly elevate the risk of stunting in toddlers. Overall, the data suggest that improving eating frequency among young children may be a key factor in preventing stunting and promoting healthier growth outcomes. This study is in line with the research conducted by (Aisyah et al., 2021), in the results of the chi-square statistical test obtained a p-value of 0.000 (<0.05) shows that the frequency of eating in toddlers is related to the incidence of stunting in toddlers in Kebun Kelapa Village, Secanggang District, Langkat Regency in 2020. In this research, the OR value of the analysis is 56,000. It means that toddlers are 56 times more likely to experience stunting if the child's eating frequency is not proper for their nutritional status.

The results of this study are in line with the research conducted by (Ginting et al., 2024), namely in the multivariate analysis obtained a p-value of 0.046, indicating that the frequency of eating in toddlers with the incidence of stunting in toddlers aged 12-59 months in the Marihat Bandar Health Center work area has a significant unidirectional relationship. Providing toddler with eating frequency must pay attention to the quantity and variety of foods that affect their nutritional status. Even though the mothers give the toddlers appropriate eating frequency, the amount of food and the variety of food is not suitable for the recommendations, they may be at risk of experiencing disorders in their nutritional status.

The analysis indicates that 28.6% of stunted toddlers exhibit less variation in their selection of food ingredients, in contrast to only 18.4% of stunted toddlers who consume a more diverse range of foods. The Chi-square analysis produced a p-value of 0.003, which is significantly lower than the threshold of 0.05 (0.003 < 0.05). This finding suggests a meaningful relationship between the variation in food ingredients and the incidence of stunting among toddlers. Additionally, the odds ratio (OR) for the connection between food ingredient variation and

stunting is calculated at 6.533. This figure suggests that toddlers with limited variation in their food ingredients are 6.533 times more likely to experience stunting compared to those who have a more varied diet.

These results underscore the importance of dietary diversity in promoting healthy growth and development in young children. Addressing the lack of variety in food choices may be crucial in reducing the risk of stunting and improving overall nutritional outcomes for toddlers. Therefore, enhancing food ingredient variety should be a focus in dietary interventions aimed at preventing stunting in this vulnerable population. This research is in line with research that has been conducted by (Harahap & Handayan, 2022); the p-value = 0.01 (<0.05). There is a significant relationship between parenting patterns of feeding and the incidence of stunting in toddlers. The feeding pattern is related to the lack of types of food variations given. The results following research conducted by (Retni & Arfianti, 2024), namely p-value = 0.001 (<0.05). The correlation between the diversity of food consumption and the incidence of stunting. Stunting can be affected by the nutritional quality and the amount of food consumed (Samosir et al., 2023). Food quality is related to the variety of children's food, while the food quantities correlate with the child's eating patterns. Children who consume foods with many variations accompanied by diet recommendations can help increase their food intake and avoid micro and macronutrient deficiencies.

The diversity of eating patterns in children is related to the incidence of stunting (Basri et al., 2021). If the mother only follows what her toddler eats without trying to find a variety of other food ingredients, it can cause the child's nutritional needs to be unbalanced. It can lead to stunted growth in toddlers due to poor feeding practices (Wahyuni et al., 2021). The interview results indicate that respondents who face limited access to food and are in challenging economic conditions often choose to buy side dishes that are typically shared and consumed by their entire family. In addition, several respondents said that their children are picky about food, so children consume foods that are specifically chosen or preferred based on specific criteria. Therefore, respondents rarely give their children food with a balanced menu consisting of sources of carbohydrates, animal protein, vegetable protein, fat, vegetables, and fruit every day

CONCLUSIONS AND SUGGESTIONS

Based on the results and discussions from the research conducted on the relationship between parental feeding patterns and their impact on the incidence of stunting in toddlers in Glagahwero Village, Kalisat District, Jember Regency, there is no significant relationship between the history of exclusive breastfeeding, the history of complementary feeding and stunting in toddlers. There is a strong affinity between food frequency, variety of food ingredients and stunting in toddlers and stunting in toddlers

As part of efforts to prevent stunting, promoting optimal feeding practices, including meal frequency and food variety, is crucial for pregnant women and mothers of toddlers.

ACKNOWLEDGEMENT

Thank you to the Jember District Health Office, the Head of the Kalisat

District Health Center, the Nutritionist at the Kalisat Health Center, the Midwife in Glagahwero Village, Dahlia Integrated Health Post (Posyandu) Post Cadre, Glagahwero Village, my Final Project Supervisor and to all parties who contributed to this research, with the result of this research can be implemented

REFERENCES

Aghadiati, F., Ardianto, O., & Wati, S. R. 2023. *Hubungan Pengetahuan Ibu Terhadap Kejadian Stunting di Wilayah Kerja Puskesmas Suhaid Relationship Between Mother ' s Knowledge and Stunting In the Work Area of the Suhaid Health Center*. *9*(1), 130–137.

Ahmad Rizal, Yunita, M. 2023. Incidence of Stunting in Toddlers in the City of Bengkulu. *Journal of Nursing and Public Health*, *11*(2), 603–608.

Aisyah, S., Tarigan, R., & Azizah, L. L. N. 2021. *Faktor Yang Berhubungan Dengan Kejadian Stunting Pada Balita Di Desa Kebun Kelapa Kecamatan Secanggang Kabupaten Langkat Tahun 2020*. *4*(1), 40–51.

Amalia, R., Ramadani, A. L., & Muniroh, L. 2022. Kecukupan Protein Dengan Kejadian Stunting. *National Nutrition Journal*, *17*(3), 310–319.

Balitbangkes RI. 2018. Laporan Riskesdas 2018 Nasional.pdf. In *Lembaga Penerbit Balitbangkes* (p. hal 156).

Basri, H., Hadju, V., Zulkifli, A., Syam, A., Ansariadi, Stang, Indriasari, R., & Helmiyanti, S. 2021. Dietary diversity, dietary patterns and dietary intake are associated with stunted children in Jeneponto District, Indonesia. *Gaceta Sanitaria*, *35*, S483–S486. https://doi.org/10.1016/j.gaceta.2021.10.077

Dahliansyah, D., Ginting, M., & Desi, D. 2020. Riwayat posyandu dan asi eksklusif dengan kejadian stunting anak usia 6-59 bulan di wilayah Kelurahan Siantan Hulu Kota Pontia. Darussalam Nutrition Journal, 4(2), 128. https://doi.org/10.21111/dnj.v4i2.4305

Ginting, T., Jubel, M., Hutapea, S., & Lusten, P. 2024. Hubungan Pola Pemberian Makan Dengan Kejadian Stunting Pada Balita Usia 12-59 Bulan Di Kecamatan Bandar Kabupaten Simalungun the Relationship of Feeding Patterns and Incidents of Stunting in Toddler Ages 12-59 Months in Bandar District , Simalungun Distri. *Ibnu Sina: Jurnal Kedokteran Dan Kesehatan-Fakultas Kedokteran Universitas Islam Sumatera Utara*, *23*(2), 104–109.

Harahap, D. A., & Handayan, F. 2022. Hubungan Pola Asuh Pemberian Makanan Dengan Kejadian Stunting Pada Balita Di Wilayah Kerja Puskesmas Kampar Kabupaten Kampar. *Jurnal Doppler*, *6*(2), 70–78.

Hidayat, R. 2018. Multidimensional Analysis of Risk Factors for Stunting in Rural South Sumatra ,. *Scientific Journal of Pediatrics*, 1–13.

IDAI. 2018. Pemberian Makanan Pendamping. In *UKK nutrisi dan penyakit metabolik ikatan dokter anak indonesia* (pp. 1–16).

Idayanti, R. A., Sari, Y. N. E., & Suhartin. 2024. Hubungan Pemberian Makan dengan menu Seimbang dengan Pertumbuhan dan Perkembangan Anak Usia 4-6 Tahun. *Jurnal Penelitian Perawat*

Profesional, *6*(4), 1739–1746.

Indrayani, M., & Wulandari, S. 2024. *Faktor-Faktor Yang Berhubungan Dengan Kelurahan Paya Pasir Kecamatan Medan Marelan Tahun 2023*. *10*(2), 125–132.

Januarfitra, R. D., & Kurniawati, D. E. 2022. Upaya Reduksi Stunting pada BADUTA 2.0 melalui Kerja Sama antara Global Alliance for Improved Nutrition (GAIN) Swiss dan Pemerintah Kabupaten Bondowoso. *Sang Pencerah: Jurnal Ilmiah Universitas Muhammadiyah Buton*, *8*(2), 506–520. https://doi.org/10.35326/pencerah.v8i2.2233

Kementerian Kesehatan Republik Indonesia. 2022. Buku Saku Hasil Studi Status Gizi Indonesia (SSGI) Tahun 2022. *Kemenkes RI*, 1–14.

Kementerian Kesehatan RI. 2018. *Buletin Jendela Data dan Informasi Kesehatan: Situasi Balita Pendek di Indonesia*.

Khairani, N., & Effendi, S. U. 2022. *Jurnal Sains Kesehatan Vol. 29 No. 3 Desember 2022*. *29*(3), 1–9.

Krasevec, J., An, X., Kumapley, R., Bégin, F., & Frongillo, E. A. 2017. Diet quality and risk of stunting among infants and young children in low- and middle-income countries. *Maternal and Child Nutrition*, *13*(November 2016), 1–11. https://doi.org/10.1111/mcn.12430

Maesarah, M., Adam, D., Hatta, H., Djafar, L., & Ka'aba, I. 2021. Hubungan Pola Makan dan Riwayat ASI Ekslusif Dengan Kejadian Stunting Pada Balita di Kabupaten Gorontalo. *Al Gizzai: Public Health Nutrition Journal*, *1*(1), 50–58. https://doi.org/10.24252/algizzai.v1i1.19082

Moehji, S. 2017. *Dasar-dasar ilmu gizi 2 / oleh Sjahmien Moehji* (Cet. 1). Pustaka Kemang.

Nabuasa, C. D. 2024. Hubungan Riwayat Pola Asuh, Pola Makan, Asupan Zat Gizi Terhadap Kejadian Stunting pada Anak Usia 24 –59 Bulan di Kecamatan Biboki Utara Kabupaten Timor Tengah Utara Provinsi Nusa Tenggara Timur. *Jurnal PAZIH_Pergizi Pangan DPD NTT*, *13*(1), 58–74.

National Development Planning Agency (Bappenas). 2020. Rpjmn 2020-2024. *National Mid-Term Development Plan 2020-2024*, 313.

Novianti, U., Ekawati, H., Haris, M., & Safira, D. Y. 2022. Hubungan antara Status Imunisasi, Sanitasi Lingkungan dan Pola Asuh Makanan dengan Kejadian Stunting. *Jurnal Ilmiah Obsgin*, 122–131.

Nur, S., Jamillah, A., Henukh, D. M. S., Amnifu, J., & Selatan, T. 2022. Kejadian Stunting Pada Balita Di Kabupaten Timor Tengah Selatan Relationship History of Exclusive Breast Milk With Stunting Events in Children in South Central Timor. *Jurnal Kesehatan Indra Husada*.

Oktafirnanda, Y., & Pratiwi Harahap, H. 2018. Analisis Faktor Resiko Kejadian Stunting Di Desa Helvetia. *Seminar Nasional Terapan Riset Inovatif (SENTRINOV) Ke-VII*, *7*(1), 239–251. http://repository.helvetia.ac.id/id/eprint/747

Panggabean, M. L., Sinaga, E. S., Susanti, M. A., Malaw, M., Tarigan, M. S., & Pasaribu, M. Y. (2024). Hubungan Pemberian ASI Ekslusif dengan Tumbuh

Kembang Bayi Usia 0-6 Bulan di Puskesmas Singgabur Kecamatan Sitellu Tali Urang Julu Kabupaten Pakpak Bharat. *Jurnal Ners*, *8*(2), 1711–1716.

Prakhasita, R. C. 2019. Hubungan Pola Pemberian Makan Dengan Kejadian Stunting pada Balita Usia 12-59 Bulan di Wilayah Kerja Puskesmas Tambak Wedi Surabaya. *Ir-Perpustakaan Universitas Airlangga Skripsi*, 1–119.

Rahmi, A. A., & Agustina Harahap, R. 2024. Analisis Implementasi Program Pemberian Asi Eksklusif Di Dinas Kesehatan Kabupaten Labuhanbatu. *Health Information : Jurnal Penelitian*, *16*(1), e1369. https://doi.org/10.36990/hijp.v16i1.1369

Rahut, D. B., Mishra, R., & Bera, S. 2024. Geospatial and environmental determinants of stunting, wasting, and underweight: Empirical evidence from rural South and Southeast Asia. *Nutrition*, *120*, 112346. https://doi.org/10.1016/j.nut.2023.112346

Retni, & Arfianti, M. 2024. Analisis Faktor Risiko Kejadian Stunting Pada Balita Di Puskesmas Teras Terunjam Kabupaten Muko-Muko. *Journal of Nursing and Public Health*, *12*(1), 239–257.

Ruwiah, Harleli, Dupai, L., Ruslan, M., & Paisal, J. 2019. *Penguatan dan Inovasi Pelayan Kesehatan dalam Era Revolusi Industri 4.0*.

Samosir, O. B., Radjiman, D. S., & Aninditya, F. 2023. Food consumption diversity and nutritional status among children aged 6-23 months in Indonesia: The analysis of the results of the 2018 Basic Health Research. *PLoS ONE*, *18*(3 March), 1–13. https://doi.org/10.1371/journal.pone.0281426

Unicef, 2020. Situasi Anak di Indonesia - Tren, peluang, dan Tantangan dalam Memenuhi Hak-Hak Anak. *Unicef Indonesia*, 8–38.

United Nations Children's Fund, World Health Organization, & World Bank Group. 2018. Levels and trends in child malnutrition: Key findings of the 2018 Edition of the Joint Child Malnutrition Estimates. *Midwifery*, 1–16.

Wahyuni, N., Noviasty, R., & Nurrachmawati, A. 2021. Pemberian dan Perilaku Makan Pada Balita Stunting dan Non-Stunting di Puskesmas Perawatan Mekarsari. *Jurnal Kedokteran Dan Kesehatan*, *4*(4), 343–354.

Wahyuningsih. 2021. *Hubungan Dukungan Tenaga Kesehatan Terhadap Pemberian Exclusive Breastfeeding (Ebf) Pada Ibu Bekerja Di Wilayah Kelurahan Kudu, Kecamatan Genuk, Kota Semarang*. http://repository.unissula.ac.id/21004

Widiastity, W., & Harleli, H. 2021. Hubungan Pemberian MP-ASI Terhadap Kejadian Stunting Pada Balita Usia 6 – 24 Bulan di Puskesmas Soropia. *Nursing Care and Health Technology Journal (NCHAT)*, *1*(2), 81–86. https://doi.org/10.56742/nchat.v1i2.13