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Factors Influencing the Incidence of Stunting Among Children Aged 24-59 Months in 2024

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Abstrak

Introduction: *Stunting or poor linear growth is considered a common health problem among children globally. Based on secondary data from Centro Saude Comunitaria Comoro from January-May 2024, it shows that there are 376 cases of stunting prevalence in children aged 24-59 months.* ***Objective:*** *To find out the factors that affect the incidence of stunting in toddlers aged 24-59 months at Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, in 2024.* ***Method:*** *The research design used in this study is aquantitative analytical research with a cross-sectional approach, which is a research that emphasizes the time to measure/observe independent and dependent variable data only once at a time.* ***Result and Discussion:*** *the study showed that there was a significant influence between education factors on stunting with a value of 0.002<0.05, there was a significant influence between family income factors on stunting with a value of 0.000<0.05, there was a significant influence between feeding pattern factors on stunting with a value of 0.000<0.05 and there was a significant influence between exclusive breastfeeding factors on stunting with a value of 0.000<0.05.* ***Conclusion:*** *that educational factors, family income factors, feeding pattern factors and exclusive breastfeeding factors have an influence on the incidence of stunting in toddlers aged 24-59 months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, 2024. Therefore, it is recommended to the authorities to follow up to reduce or solve health problems, especially stunting in certain areas.*

Keyword: Education; Family Income; Dietary Patterns; Exclusive Breastfeeding; Stunting;

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Introduction

Health issues concerning mothers and children have always been a major topic worldwide, particularly regarding nutrition. Nearly all developing countries are affected by child health problems, especially stunting (Bakhtiar, 2021). Many countries face significant challenges related to stunting, including Timor-Leste, which, as a developing country, also struggles with malnutrition among toddlers (Colo & Manongga, 2022).

Stunting (short stature) is a growth disorder in children caused by chronic malnutrition due to inadequate nutrient intake or chronic infectious diseases. It is characterized by a z-score of height-for-age (HAZ) or length-for-age (LAZ) below -2 SD (WHO, 2005) at (Meylani, Siregar, Ningsih, Perdana, & Wisudariani, 2023). Stunting is an indicator of chronic malnutrition resulting from prolonged inadequate food intake, poor food quality, increased morbidity, and insufficient height growth relative to age (HAZ or LAZ) (Nurjani & Silviana, 2022)

Stunting is a chronic malnutrition problem caused by prolonged inadequate nutrient intake due to insufficiently nutritious food, (Nasriyah & Ediyono, 2023) (Kementerian Kesehatan Republik Indonesia tahun 2016). (Ministry of Health of the Republic of Indonesia, 2016). Stunting, or poor linear growth (height-for-age score), is considered a common health issue among children globally (United Nations Children's Fund, 2004). In 2017, approximately 151 million (22%) children under the age of five were affected by stunting (Nurdin, Akib, Saputri, & Ariyana, 2022)

Regionally, Africa had the highest stunting prevalence in 2020, with a percentage reaching 31.7%, according to WHO data. This was followed by Southeast Asia, with a prevalence rate of 30.1%, and the Eastern Mediterranean region, with 26.2% (Nazila, Ramadhaniah, & Aramico, 2024). According to a report from the Asian Development Bank (ADB, 2020), Timor-Leste was recorded as the developing country with the highest stunting prevalence in Southeast Asia, reaching 48.8% in 2020.

Based on stunting data in Municipio Dili, the capital city of Timor-Leste, the municipality recorded a stunting prevalence rate of 32%. This percentage indicates that Municipio Dili has a high number of stunting cases compared to the national nutritional measurement standard, as it significantly exceeds the 20% threshold. Secondary data obtained from Centro Saude Comunitaria Comoro from January to May 2024 recorded 376 cases of stunting among children aged 24-59 months. Several factors contribute to the occurrence of stunting, including parental education levels, parental occupation and income, childcare practices, a history of exclusive breastfeeding, and a history of infectious diseases such as diarrhea and acute respiratory infections (ARI) (Lestari, Samidah, & Diniarti, 2022).

Exclusive breastfeeding can reduce the risk of stunting, as evidenced by the number of stunting cases found among children who were not exclusively breastfed compared to those who were (Sugiyanto & Sumarlan, 2020). Stunting in children is caused by growth disorders. According to WHO, the factors influencing stunting include healthcare service quality, caregiving, environmental conditions, food security, family-related factors,

inadequate complementary feeding, breastfeeding practices, and infectious diseases (Syabania, Yuniar, & Fahmi, 2022)

Method

The research design used in this study is an analytical quantitative study with a cross-sectional approach, which emphasizes that the measurement/observation of data on independent and dependent variables is conducted only once at a specific point in time. Variables are assessed simultaneously at a single moment, without any follow-up. This research design was chosen because the researcher aims to identify factors influencing the variables under study. This means that the researcher seeks to determine whether there is an influence of education, income, feeding patterns, and exclusive breastfeeding on the incidence of stunting in toddlers (Nursalam, 2016).

The study aims to identify the factors influencing the occurrence of stunting among children aged 24-59 months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, in 2024. The total population consists of 3,443 households, while the sample includes 97 families with children aged 24-59 months living in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili. The sampling technique used is systematic sampling or Systematic Random Sampling. After selecting the sample systematically, the researcher applied accidental sampling to collect data. The instruments used in this study include questionnaires and checklists, with the support of the mWater application. The instruments have undergone validity and reliability testing.

In line with the research methodology for this thesis, which involves quantitative data analysis, the researcher employs quantitative analysis techniques, specifically using the Chi-Square test. The tools used for data analysis include Excel, anthropometric measurements, and SPSS version 22

Result and Discussion

Result

The research findings on the factors influencing the incidence of stunting among children aged 24-59 months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, in 2024 are as follows:

Univariate Analysis

The population of each Aldeia consists of all individuals who have lived in a specific place for at least six months but intend to reside there temporarily. Aldeia refers to a region inhabited by a certain number of people and represents the lowest level of government organization directly under Suco. Based on the research findings in the Suco Manleuana area, according to the respondents, the results can be observed in the table below:

Table 1
Respondent Age

Age	Respondent	Precentace (%)
25-29	33	34.0
30-34	22	22.7
35-39	20	20.6
40-44	6	6.2
>45	3	3.1

Based on the results from Table 1, the data shows that most respondents, 33 (34.0%), are aged 25-29 years, followed by 22 (22.7%) aged 30-34 years, 20 (20.6%) aged 35-39 years, 6 (6.2%) aged 40-44 years, and a small percentage of respondents, 3 (3.1%), aged over 45 years

Table 2
Respondent Religion

Religion	Respondent	Precentace (%)
Catholic	93	95.9
Protestant	4	4.1

Based on the results from Table 2, most respondents, 93 (95.9%), are Catholic, while a small percentage, 4 (4.1%), are Protestant.

Table 3
Respondent Work

Work	Respondent	Precentace (%)
Housewives	85	87.6
Civil servants	10	10.3
Traders	2	2.1

Based on the results from Table 3, most respondents, 85 (87.6%), are housewives, 10 (10.3%) are civil servants, and a small percentage, 2 (2.1%), are traders.

Table 4
Number of Respondents' Family Members

Family member	Respondent	Precentace (%)
1-4	28	28.9
5-8	56	57.7
9-12	10	10.3
>12	3	3.1

Based on the results from Table 4, most respondents, 56 (57.7%), have 5-8 family members, 28 (28.9%) have 1-4 family members, 10 (10.3%) have 9-12 family members, and a small percentage, 3 (3.1%), have more than 12 family members.

Bivariate Analysis

In this section, the researcher analyzes data for five variables to compare the independent variables (X) with the dependent variable (Y), which is stunting. The independent variables include education (X1), income (X2), feeding patterns (X3), and exclusive breastfeeding (X4), with the dependent variable stunting (Y) among children aged 24-59 months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, in 2024. The study aims to determine the relationship between these five variables using the Chi-Square statistical analysis, comparing the alpha value (α) with the p-value.

The analysis results indicate a significant influence of education, income, feeding patterns, and exclusive breastfeeding on the incidence of stunting among children aged 24-59 months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, in 2024.

Based on bivariate analysis results, the p-value of Pearson's Chi-Square test for education (X1) is 0.002, which is less than the significance level of 0.05. Thus, the null hypothesis (Ho) is rejected, and the alternative hypothesis (Ha) is accepted. It can be concluded that education has a significant impact on the incidence of stunting among children aged 24-59 months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, in 2024.

Based on the next bivariate analysis, the p-value of Pearson's Chi-Square test for income (X2) is 0.000, which is less than the significance level of 0.05. Thus, Ho is rejected, and Ha is accepted, confirming that family income has a significant impact on stunting incidence among children aged 24-59 months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, in 2024.

Based on the bivariate analysis results, the p-value of Pearson's Chi-Square test for feeding patterns (X3) is 0.000, which is less than the significance level of 0.05. Thus, Ho is rejected, and Ha is accepted, indicating that feeding patterns significantly influence the incidence of stunting among children aged 24-59 months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, in 2024.

Based on the bivariate analysis results, the p-value of Pearson's Chi-Square test for exclusive breastfeeding (X4) is 0.000, which is less than the significance level of 0.05. Thus, Ho is rejected, and Ha is accepted, confirming that exclusive breastfeeding has a significant impact on the incidence of stunting among children aged 24-59 months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, in 2024.

Discussion

Based on the research findings, this discussion will provide a detailed explanation of the results. Below is an analysis of the nutritional status of toddlers based on data collected from the study location.

Anthropometric measurements indicate that 47.4% of children aged 24-59 months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, in 2024 experience stunting, while 52.6% fall within the normal range. Given these figures, it can be concluded that several factors contribute to stunting, including education, family income,

feeding patterns, and exclusive breastfeeding. Additionally, other influencing factors that were not covered in this study may also play a role in the incidence of stunting.

1. Educational Factors Influencing the Incidence of Stunting Among Children Aged 24-59 Months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, 2024.

The Chi-Square test results in this study show that the education variable has a significance value of 0.002, which is lower than the error tolerance threshold of 0.05 or p-value = 0.002 ≤ α = 0.05. Therefore, Ho is rejected, and Ha is accepted, meaning that education significantly influences the incidence of stunting in children.

Based on the findings and analysis, the researcher concludes that education plays a crucial role in daily life, as it helps individuals develop the knowledge necessary to carry out everyday activities. Education enables people to differentiate between beneficial and harmful practices in life. Therefore, every individual has the right to access education to enhance their knowledge and improve their quality of life.

When compared to a study conducted by Edy Ariyanto, Fahrurazi, and Muhammad Amin (2021) on the relationship between maternal education levels and drinking water sources with stunting incidence in the Upt. Puskesmas Palangkau area, the Pearson Chi-Square test results showed p-value = 0.002 ≤ α = 0.05, rejecting Ho and confirming a significant relationship between education level and stunting in Palangkau Village, Upt. Puskesmas Palangkau, 2020. Similarly, the current study on factors influencing stunting in children aged 24-59 months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, 2024, found a p-value = 0.002 ≤ α = 0.05, indicating a significant influence of education on stunting incidence.

2. Family Income Factors Influencing the Incidence of Stunting Among Children Aged 24-59 Months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, 2024.

The Chi-Square test results using SPSS software indicate that family income has a significance value of 0.000, which is lower than the error tolerance threshold of 0.05 (p-value = 0.000 ≤ α = 0.05). This result serves as the basis for rejecting Ho and accepting Ha, confirming that family income has a significant impact on stunting incidence among children.

From the research and analysis, it is evident that family income is a contributing factor to stunting. Lower income levels affect the ability of families to provide nutritious food, which is essential for children's growth and development. Therefore, family income directly influences overall health and well-being.

Compared to a study titled "Family Income and Stunting During the COVID-19 Pandemic: A Case Study in an Indramayu District, 2021", the results showed that family income significantly influenced stunting, with p-value = 0.036 ≤ α = 0.05. Similarly, the present study on factors influencing stunting in children aged 24-59 months found a significant impact of family income on stunting incidence, with a p-value = 0.000 ≤ α =

0.05. Thus, family income is confirmed to significantly affect stunting among children aged 24-59 months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, 2024.

3. Feeding Patterns Influencing the Incidence of Stunting Among Children Aged 24-59 Months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, 2024.

The Chi-Square test results, conducted using SPSS software, confirm that feeding patterns significantly influence stunting incidence. The hypothesis testing, conducted using the Chi-Square test, revealed a significance value of 0.000, which is lower than the error tolerance threshold of 0.05. This result rejects Ho and accepts Ha, indicating that feeding patterns have a significant impact on stunting incidence in children aged 24-59 months.

Based on the findings, the researcher concludes that a well-balanced diet is crucial for children's growth, development, and immune system strength. Proper nutrition helps prevent various diseases, while poor feeding patterns negatively affect growth, development, and overall health.

Compared to a study by Wanty et al. (2022) on the relationship between maternal factors, feeding patterns, and exclusive breastfeeding with stunting in children aged 12-59 months in Bataraguru Village, 2022, the Chi-Square test results showed p-value = $0.361 \leq \alpha = 0.05$. However, the current study on factors influencing stunting in children aged 24-59 months found a significant impact of feeding patterns on stunting, with a p-value = $0.000 \leq \alpha = 0.05$. This confirms that feeding patterns significantly affect stunting incidence among children aged 24-59 months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, 2024.

4. Exclusive Breastfeeding Factors Influencing the Incidence of Stunting Among Children Aged 24-59 Months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, 2024.

The Chi-Square test results in this study show that the exclusive breastfeeding variable has a significance value of 0.000, which is lower than the error tolerance threshold of 0.05. Therefore, Ho is rejected, and Ha is accepted, indicating that exclusive breastfeeding significantly influences the incidence of stunting in children. Based on the findings and analysis, the researcher explains that breast milk contains essential nutrients needed by newborns. Babies should receive breast milk from birth up to at least two years of age. If a child does not receive adequate breast milk, it can lead to nutritional deficiencies, which may result in stunting.

The analysis confirms a significant impact of exclusive breastfeeding on stunting incidence. If a baby does not receive sufficient breast milk, they are more susceptible to health problems, including stunting. Therefore, it is highly recommended that newborns receive exclusive breastfeeding immediately after birth and continue until 24 months or beyond, depending on the child's needs.

Compared to a study by Wanty et al. (2022) on the relationship between maternal factors, feeding patterns, and exclusive breastfeeding with stunting in children aged 12-59 months in Bataraguru Village, 2022, the Chi-Square test results showed p-value = 0.309 ≤ α = 0.05. However, the present study on factors influencing stunting in children aged 24-59 months found a significant impact of exclusive breastfeeding on stunting, with a p-value = 0.000 ≤ α = 0.05. This confirms that exclusive breastfeeding significantly affects stunting incidence among children aged 24-59 months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, 2024.

Conclusion

There is a significant influence of the education factor on the incidence of stunting among children aged 24-59 months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, in 2024, as the analysis results show that the p-value is smaller than the alpha (α) value, specifically 0.002 ≤ 0.05. Based on this, the researcher concludes that parental education, particularly that of mothers, has an impact on stunting incidence in children aged 24-59 months.

There is a significant influence of the family income factor on the incidence of stunting among children aged 24-59 months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, in 2024, as the analysis results show that the p-value is smaller than the alpha (α) value, specifically 0.000 ≤ 0.05. Based on this, the researcher concludes that family income has an impact on stunting incidence in children aged 24-59 months.

There is a significant influence of the feeding pattern factor on the incidence of stunting among children aged 24-59 months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, in 2024, as the analysis results show that the p-value is smaller than the alpha (α) value, specifically 0.000 ≤ 0.05. Based on this, the researcher concludes that feeding patterns have an impact on stunting incidence in children aged 24-59 months.

There is a significant influence of the exclusive breastfeeding factor on the incidence of stunting among children aged 24-59 months in Suco Manleuana, Posto Administrativo Dom Aleixo, Municipio Dili, in 2024, as the analysis results show that the p-value is smaller than the alpha (α) value, specifically 0.000 ≤ 0.05. Based on this, the researcher concludes that exclusive breastfeeding has an impact on stunting incidence in children aged 24-59 months.

Reference

Bakhtiar, Handar Subhandi. (2021). Bekasi City Government Policy In Financing Stunting In Children. *KESANS: International Journal of Health and Science*, *1*(2), 131–138.

Colo, Angelo Lafo, & Manongga, Stefanus P. (2022). Factors Affecting the Event of Stunting in Children Age to 24-59 Months in Centro Saude Internamento Gleno, Municipiu Ermera, Timor-Leste. *Kesans: International Journal Of Health And Science*, *1*(8), 765–775.

Lestari, Winda, Samidah, Ida, & Diniarti, Fiya. (2022). Hubungan pendapatan orang tua dengan kejadian stunting di Dinas Kesehatan Kota Lubuklinggau. *Jurnal Pendidikan Tambusai*, *6*(1), 3273–3279.

Meylani, Meylani, Siregar, Sri Astuti, Ningsih, Vinna Rahayu, Perdana, Silvia Mawarti, & Wisudariani, Evy. (2023). The Relationship Between Personal Factors of Mothers Under Five and The Incidence of Stuntinging in Toddlers (24-59 Months). *KESANS: International Journal of Health and Science*, *2*(10), 767–783.

Nasriyah, Nasriyah, & Ediyono, Suryo. (2023). Dampak kurangnya nutrisi pada ibu hamil terhadap risiko stunting pada bayi yang dilahirkan. *Jurnal Ilmu Keperawatan Dan Kebidanan*, *14*(1), 161–170.

Nazila, Siska, Ramadhaniah, Ramadhaniah, & Aramico, Basri. (2024). DETERMINAN STUNTING PADA BALITA DI KECAMATAN BAITURRAHMAN KOTA BANDA ACEH. *Jurnal Kesehatan Saintika Meditory*, *7*(2), 521–532.

Nurdin, Nasrayanti, Akib, Resky Devi, Saputri, Chandra Ariani, & Ariyana, Ariyana. (2022). Sosialisasi Pencegahan Stunting Melalui Upaya Pemantauan Tumbuh Kembang Balita di TK Aisyiyah Kabupaten Sidenreng Rappang. *Journal of Social Responsibility Projects by Higher Education Forum*, *3*(2), 178–181.

Nurjani, Yan Yan, & Silviana, Siti Saharah. (2022). Pembiasaan Kegiatan Cooking Class di Tk Asy-Syuhada dalam Upaya Pencegahan Stunting. *Jurnal Pendidikan Islam Anak Usia Dini (Anaking)*, *1*(2), 25–31.

Sugiyanto, Sugiyanto, & Sumarlan, Sumarlan. (2020). Analisa Faktor Yang Berhubungan Dengan Stunting Pada Balita Usia 25-60 Bulan. *JURNAL KESEHATAN PERINTIS (Perintis's Health Journal)*, *7*(2), 9–20.

Syabania, Riri, Yuniar, Pravita Ayu, & Fahmi, Ilmia. (2022). Faktor-Faktor Prenatal Yang Mempengaruhi Stunting Pada Anak Usia 0-2 Tahun Di Wilayah Asia Tenggara: Literature Review. *Journal of Nutrition College*, *11*(3), 188–196.