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# The Relationship of Pregnancy Distance and Mother's Knowledge on The Incident of Stunting in Toddler

**Rika Andriani[1], Erlia Rosita[2], Ratnawati Bancin[3], Rizaldi Nanda Wiguna[4], Epi Marhamah[5]**
**[1235]STIKes Medika Seramoe Barat,**
**[4]Akademi Keperawatan Kesdam Iskandar Muda IM Banda Aceh**
*Email: rika.andryani25@gmail.com

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**Keywords:**

*Pregnancy distance*
*Knowledge*
*Stunting*
*Toddlers*

**Abstract**

***Background:*** *Stunting is a nutritional problem in developing countries, especially in the first 1000 days of life, as can be seen from chronic growth and development disorders in children. The government's attention is focused on dealing with stunting in Indonesia, even though there has been a decline in the stunting rate in 2021, namely 24.4 and in 2022, namely 21.6%, but it is still far from the target.*
***Method:*** *This type of research is quantitative with a cross sectional design. The sample in this study amounted to 114 respondents and the sampling technique used stratified random sampling.*
***Result:*** *The results of the research show that there is a relationship between pregnancy distance and maternal knowledge on the incidence of stunting in toddlers with a p-value of 0.000.*
***Implication:*** *Stunting cases must be resolved seriously from all levels, starting from increasing mothers' knowledge regarding fulfilling maternal nutrition during pregnancy, support from husbands/families, health workers with health education for mothers and the government as well as issuing policies to reduce stunting rates and programs that have been implemented then controlled maximally until it matches the target.*

## INTRODUCTION

Globally, in 2022 cases of stunting among children under five will reach 149 million (UNICEF, 2023). Stunting is nutritional status in the PB/U or TB/U index in anthropometric assessment of children's nutritional status with measurement results at thresholds (Z-Score) < -2 SD to -3 SD in the short/stunted category) and < -3 SD ( very short/severally stunted) (Sari & Sari, 2023).

`The results of the Indonesian Nutrition Status Survey show that stunting cases in Indonesia in 2021 are 24.4 and in 2022 they are 21.6% (SSGI, 2022). Aceh is one of the provinces with the highest stunting rate in Indonesia with a figure of 33.2% in 2022, a decrease compared to 2021, namely 33.2%. Stunting among toddlers in Nagan Raya 28.8% (SSGI, 2022). Even though the stunting rate in Indonesia is decreasing, it is still above the 20% threshold for developing countries set by WHO (Mammluatul Wisdom, 2023).

Lack of nutrition during pregnancy and inadequate nutritional intake during childhood are the main factors in stunting (Fufa, 2022). Between gestational age and the first two years after birth, stunting often appears (De Onis et al., 2019). Stunting is a nutritional problem in developing countries, especially in the first 1000 days of life, as can be seen from chronic growth and development disorders in children. Stunting also inhibits the development of brain cells, affects the child's intelligence level and will ultimately affect the child's cognitive abilities, and in the long term it can even reduce productivity and hinder the economy in the future as well as risk degenerative diseases such as diabetes mellitus. Stunting carries the risk of increased morbidity and mortality (UNICEF et al., 2019), (Nugroho et al., 2023), (WHO/NMH/NHD, 2014), (Li et al., 2019), (Engidaye et al., 2019).

Stunting is caused by several factors, including economic status (Ahmed et al., 2023), geographical differences, maternal factors such as education, age, nutritional status, infections, pregnancy spacing, birth weight, prematurity, food consumed lacking nutrition such as protein, iron, zinc, calcium and vitamins and the environment.(Yushananta & Ahyanti, 2022), (Danaei et al., 2016). Toddlers with stunting are a physical sign of malnutrition that is clearly visible and measurable (Vaivada et al., 2020).

A relatively short pregnancy interval will affect the growth and development of the child because the mother is more focused on the pregnancy so that nutritional needs for her child are not paid proper attention, especially in providing food that contains nutrients for the child (Siregar, 2023).

If mothers understand about stunting since pregnancy, they are expected to improve positive attitudes and behavior to prevent stunting, including ensuring good nutrition since pregnancy. The Indonesian Ministry of Health again conducted Riset Kesehatan Dasar (Riskesdas) on the Prevalence of Stunting in 2018. This research was conducted by the Badan Penelitian dan Pengembangan Kesehatan (Litbangkes). According to this research, the rate of stunting or short-growing children fell to 30.8% from 37.2% in Riskesdas 2013 (Indonesian Ministry of Health, 2018). Maternal knowledge is one of the factors that must be considered because it greatly influences the choice of intake or type of food consumed by the mother or baby.

Based on the background above, researchers are interested in examining the relationship between distance and knowledge on the incidence of stunting among toddlers in the working area of the Ujung Patihah Community Health Center, Nagan Raya Regency.

Previous research conducted by (Siregar, 2023) shows that there is a relationship between pregnancy distance and the incidence of stunting (p-value 0.042), research conducted by (Wardani et al., 2022) showed that there was no relationship between pregnancy spacing and the incidence of stunting (p-value 0.776), then research (Ria & Rini, 2021) shows that pregnancy spacing is related to the incidence of stunting in toddlers (P-value 0.002), Research (Jumiarsih et al., 2021)shows that there is a relationship between maternal knowledge and the incidence of stunting in toddlers aged 12-59 months, research conducted by (Paramita et al., 2021)There is a relationship between maternal knowledge about stunting and the incidence of stunting (p-value 0.038).

## METHOD

This type of research is quantitative with a cross sectional design. The research was carried out on 10-15 June 2023 on mothers with toddlers in the working area of the Ujung

Patihah Community Health Center, Nagan Raya Regency. The collection technique was stratified random sampling, totaling 114 mothers with toddlers from 13 villages. Data on pregnancy interval and maternal knowledge were measured using a questionnaire. The data was analyzed univariately to describe the data and bivariate analysis to see the relationship between pregnancy spacing and knowledge on the incidence of stunting in toddlers.

## RESULT

### Univariate Analysis

**Table 1.** Distribution of Respondent Characteristics

| Characteristics | Frequency (f) | Percentage (%) |
|---|---|---|
| Mother's Education Level | | |
| Low | 13 | 11.4 |
| Intermediate | 98 | 86 |
| Tall | 3 | 2.6 |
| Total | 114 | 100 |
| Work | | |
| Housewive | 112 | 98.2 |
| Civil servants/private employees | 2 | 1.8 |
| Total | 114 | 100 |
| Toddler Gender | | |
| Man | 48 | 42.11 |
| Woman | 66 | 57.89 |
| Total | 114 | 100 |

Based on Table 1, it shows that in terms of maternal education, the majority of mothers' education is at the secondary level, namely 86%, the majority of respondents' occupations are housewives, namely 98.2% and the majority of toddlers' gender is female, namely 57.89%.

**Table 2.** Frequency Distribution of Pregnancy distance and Mother's Knowledge

| Pregnancy distance | Frequency (f) | Percentage (%) |
|---|---|---|
| Ideal Distance (> 2 Years) | 85 | 74.6 |
| Non-ideal distance (≤ 2 years) | 29 | 25.4 |
| Total | 114 | 100 |
| Knowledge | | |
| Good | 21 | 18.4 |
| Not enough | 93 | 81.6 |
| Total | 114 | 100 |

Based on Table 2, it shows that the pregnancy distance of the majority of respondents is not ideal (> 2 years), namely 72% and the majority of respondents' knowledge is good, 72.8%).

**Table 3.** Frequency Distribution of Stunting Incidents among Toddlers at Ujung Patihah Community Health Center

| Stunting events | f | % |
|---|---|---|
| Not Stunting | 63 | 55.3 |
| Stunting | 51 | 44.7 |
| Total | 114 | 100 |

Based on Table 3, it shows that 44.7% of toddlers are stunted and 55.3% are not stunted.

## Bivariate Analysis

**Table 4.** Relationship between Pregnancy Distance and the incidence of Stunting in Toddlers in the working area of the Ujung Patihah Health Center

| Variable | Stunting events | | | | Total | | P-Value |
|---|---|---|---|---|---|---|---|
| | Stunting | | Not Stunting | | | | |
| | f | % | f | % | f | % | |
| Pregnancy distance | | | | | | | |
| Ideal distance | 22 | 43.9 | 41 | 41.2 | 63 | 55.3 | 0,000 |
| Distance is not ideal | 1 | 2.0 | 50 | 98 | 51 | 44.7 | |
| Total | 51 | 44.7 | 63 | 55.3 | 114 | 100 | |

Based on Table 4, it shows that the pregnancy distance is not ideal with stunting occurring in 43.9% of respondents. The results of bivariate analysis show that there is a relationship between pregnancy distance and the incidence of stunting in toddlers (P-Value 0.000).

**Table 5.** The relationship between maternal knowledge and the incidence of stunting among toddlers in the working area of the Ujung Patihah Community Health Center

| Variable | Stunting events | | | | Total | | P-Value |
|---|---|---|---|---|---|---|---|
| | Stunting | | Not Stunting | | | | |
| | f | % | f | % | f | % | |
| Knowledge | | | | | | | |
| Good | 20 | 95.2 | 1 | 4.8 | 21 | 18.4 | 0.000 |
| Not enough | 31 | 33.3 | 62 | 66.7 | 93 | 81.6 | |
| Total | 51 | 44.7 | 63 | 55.3 | 114 | 100 | |

Based on Table 5, it shows that 20 respondents lack knowledge and stunting. Bivariate analysis results show that there is a relationship between pregnancy distance and the incidence of stunting (P-Value 0.000)

## DISCUSSION

The results of this study show that there is a relationship between pregnancy distance and the incidence of stunting in toddlers with a siqnification of 0.000. The research is similar to research conducted by Riya Jayanti in 2020, namely that the distance between pregnancies is related to the incidence of stunting in toddlers with a P-value of 0.002 (Ria & Rini, 2021). Children born in the third, fourth and fifth birth orders have up to 1.8 times

greater risk of experiencing stunting compared to children born in the first birth order. This is caused by the burden borne by parents as a result of the increasing number of children, which in turn increases the risk of stunting (Lewa et al., 2020).

The ideal distance between pregnancy and final delivery is two years, because too close a pregnancy distance risks causing maternal complications, such as bleeding during pregnancy until delivery, and the baby born is at risk of experiencing BKKBN health problems. Mothers whose pregnancies are less than two years old cannot recover optimally after giving birth to a child and will have difficulty dividing their time to care for their two toddlers (Nomura et al., 2023).

Knowledge is one of the maternal factors related to the incidence of stunting in children. The better the mother's knowledge, the better she is at providing nutrition for toddlers. The results of this study show that there is a relationship between knowledge and the incidence of stunting in children (p-Value 0.000). The results of this research are in line with research conducted by Jumiarsi et al showing that there is a relationship between mother's knowledge of the incidence of Tunting in children aged 12-59 months in the working area of the Lawawoi Health Center, Sidrap Regency in 2020. (Jumiarsih et al., 2021)

This research is in line with research conducted by Paramita et al showing that there is a significant relationship between knowledge about stunting and the incidence of stunting with a P-Value of 0.038(Paramita et al., 2021). Knowledge about stunting helps improve children's nutrition so that they have normal height, which prevents stunting. Knowledge can come from many sources, such as social media, formal and informal education (Zogara & Pantaleon, 2020)

## CONCLUSION

There is a significant relationship between pregnancy distance and mother's knowledge of the incidence of stunting in toddlers (p-value 0.000). Stunting cases must be resolved seriously from all levels, starting from increasing mothers' knowledge regarding fulfilling maternal nutrition during pregnancy, support from husbands/families, health workers with health education for mothers and the government as well as issuing policies to reduce stunting rates and programs that have been implemented. then controlled maximally until it matches the target.

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