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THE RELATIONSHIP BETWEEN INCOME AND FAMILY SUPPORT TOWARD THE INCIDENCE OF STUNTING IN TODDLERS

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Abstract

Stunting is a major public health issue affecting child development, particularly in developing countries like Indonesia. This study aims to examine the relationship between parental income, family support, and the incidence of stunting in toddlers in Tempel Rejo Village, Kedondong Sub-district, Pesawaran Regency, Lampung Province. The study used an observational analytic design with a cross-sectional approach, involving 50 respondents selected through purposive sampling. Data were collected through self-administered questionnaires and analyzed using univariate, bivariate (Chi-square test), and multivariate (logistic regression) methods. The results revealed a significant relationship between income level and stunting (P = 0.005), with low-income families having a 6.926 times higher risk of stunting. Additionally, family support showed a significant association with stunting (P = 0.028), with families lacking support being 8.936 times more at risk. The Nagelkerke R Square value of 0.347 indicates that income and family support account for 34.7% of stunting cases, with family support being a stronger risk factor than income. These findings highlight the critical role of both financial stability and strong family support in preventing stunting and underscore the importance of education and intervention programs to empower families in addressing this issue.

Keywords**: Stunting, Income, Family Support, Toddlers, Malnutrition**

1. INTRODUCTION

Stunting in toddlers is a significant public health concern, particularly in developing countries, and is influenced by various socioeconomic factors (Elinel and Afni 2022). One of the critical determinants of stunting is household income, as financial resources directly affect access to nutritious food, healthcare, and overall living conditions. Families with lower income levels may struggle to provide adequate nutrition, which is essential for proper growth and development during the early years of life (Hanson and Munthali 2018). Additionally, family support plays a crucial role in preventing stunting, as it can enhance a child's access to care, education, and emotional well-being, which are all important for healthy growth. The interaction between income and family support is complex, and understanding their relationship with the incidence of stunting in toddlers is vital for addressing this public health challenge effectively (Jannah, Ulfiana, and Wahyuni 2020).

Stunting is a form of chronic malnutrition that affects the physical and cognitive development of children, particularly during the critical early years of life (Komariah and Azizah 2023). It is defined by a low height-for-age ratio, indicating that a child's growth has been significantly delayed compared to age-specific norms. Stunting is caused primarily by prolonged nutritional deficiencies, especially a lack of key nutrients such as protein, vitamins, and minerals, coupled with frequent infections or illnesses (Kusumaningrum 2022). Beyond physical consequences, stunting has far-reaching impacts on a child's cognitive abilities, leading to poor school performance and reduced productivity in adulthood. The effects of stunting are often irreversible after a certain age, typically after the first 1,000 days from conception, making early intervention crucial. It also reflects broader socioeconomic inequalities, as stunting is more prevalent in communities with poor access to health care, clean water, sanitation, and education.

Reducing the incidence of stunting is a global public health priority, as it directly affects a nation's human capital and long-term economic development (Latifah and Susanti 2022).

Income plays a crucial role in determining a family's ability to provide for the basic needs of its members, particularly children in their early developmental stages. In the context of this research, income directly impacts a family's capacity to access nutritious food, quality healthcare, and proper living conditions, all of which are essential in preventing stunting in toddlers (Lestari, Samidah, and Diniarti 2018). Families with higher incomes are more likely to afford diverse and nutrient-rich diets, regular medical check-ups, and a clean living environment that reduces the risk of infections that can impede growth (Lestari, Samidah, and Diniarti 2022). Conversely, low-income families often face food insecurity, limited access to healthcare, and poor sanitation, which increases the likelihood of malnutrition and illnesses that contribute to stunting. Income inequality exacerbates these challenges, with children from lower-income households being disproportionately affected (Mamangky, Rompas, and Masi 2020).

Family support plays a critical role in a child's overall well-being and development, particularly in the early years when growth is most rapid and vulnerable to external factors like nutrition and health. In the context of this research, family support encompasses emotional, physical, and financial contributions from caregivers, which collectively impact a toddler's nutrition, health, and environment. Supportive families are more likely to provide adequate care, ensuring that children receive regular meals, proper medical attention, and the necessary nurturing that promotes healthy growth (Fernando 2020). This support is especially important in low-income settings, where the presence of a strong family network can buffer the effects of financial constraints by pooling resources, sharing caregiving responsibilities, and providing emotional stability. In households where family support is lacking—due to factors like parental absence, neglect, or high stress—children are at greater risk of stunting because they may not receive the necessary attention for proper nutrition, hygiene, and healthcare.

Stunting remains a significant health issue in Indonesia, particularly in regions like Pesawaran Regency, Lampung Province, where the prevalence exceeds the WHO standard. Stunting, caused by prolonged nutritional deficiencies, not only hinders children's physical growth but also impairs cognitive development, motor skills, and future productivity. In this research, stunting is examined through the lens of two key factors: family income and family support. Low family income limits access to nutritious food, increasing the risk of malnutrition and stunting. Additionally, a lack of family support, particularly for mothers, can further exacerbate the issue, as supportive families are better equipped to provide emotional, informational, and instrumental aid that influences nutritional choices and caregiving. This study seeks to understand how these interconnected factors contribute to the high incidence of stunting in toddlers.

The aim of this study is to investigate the relationship between parental income, family support, and the incidence of stunting in toddlers in Tempel Rejo Village, Kedondong District, Pesawaran Regency. Additionally, the research seeks to determine whether parental income and family support serve as risk factors for stunting in this area. By analyzing these factors, the study aims to provide scientific evidence that can inform the development of effective intervention strategies and policies to reduce stunting and improve child health outcomes.

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2. IMPLEMENTATION METHOD

This observational analytic study employs a cross-sectional design and was conducted from December 2023 to February 2024 in Tempel Rejo Village, Kedondong Sub-district, Pesawaran Regency, Lampung Province. The study population consisted of parents with children aged 6-57 months who were members of Posyandu Dahlia 2, with a sample size of 50 selected through purposive sampling. Data were collected using a self-administered questionnaire with validity (>0.344) and reliability (>0.700, 0.863) values. Collected data included toddler characteristics such as age, gender, height, and nutritional status, as well as parental characteristics like age, occupation, education, income, and family support. The data were analyzed using univariate, bivariate (Chi-Square test), and multivariate (logistic regression) analysis.

3. RESULTS AND DISCUSSION

The research data reveals that the toddlers' ages range from 7 to 57 months, with heights between 56.2 cm and 99 cm. Most of the children are female (64%), while 36% are male. Regarding parental characteristics, the majority of parents are aged between 26-37 years (60%), with 65% having completed high school. Most parents (69%) are housewives, and 58% of the respondents fall into the low-income category. Additionally, 75% of the families reported having good family support, highlighting a generally positive familial environment despite financial challenges.

Table 1. Relationship between Income Level and Incidence of Stunting

Income Level	Incidence of Toddler Stunting						*P-value*
	Stunting		Non Stunting		Total		
	f	%	f	%	f	%	
Low	11	42,3	15	57,7	26	100,0	0,005
High	3	13,6	19	86,4	22	100,0	

The analysis of the study revealed a significant relationship between family income and the incidence of stunting in toddlers in Tempel Rejo Village, Kedondong Sub-district, Pesawaran Regency. Of the respondents with low income, 42.3% had children experiencing stunting, while 57.7% did not. In contrast, only 13.6% of respondents with high income had stunted children, with 86.4% not experiencing stunting. The Chi-square test yielded a P-value of 0.005 (P<0.05), indicating a statistically significant association between income level and stunting, suggesting that lower family income increases the risk of stunting in toddlers.

Table 2. Relationship between Family Support and the Incidence of Stunting

Family Support	Incidence of Toddler Stunting						*P-value*
	Stunting		Non Stunting		Total		
	f	%	f	%	f	%	
Less	5	55.6	4	44,4	9	100,0	0,017
Good	9	23	30	77	39	100,0	

The analysis revealed a significant relationship between family support and the incidence of stunting in toddlers in Tempel Rejo Village, Kedondong Sub-district, Pesawaran Regency. Among respondents with less family support, 55.5% had children experiencing stunting, while 44.4% did not. In contrast, among those with excellent family support, 23% had stunted children, while 77% did not. The Chi-square test produced a P-value of 0.017 (P<0.05), indicating a

statistically significant association between family support and stunting, suggesting that greater family support is linked to a reduced risk of stunting in toddlers.

Table 3. Relationship between Income Level and Family Support to Stunting

		Nagelkere R Square	*Variables in the Equation*			*95% C.I.for EXP(B)*	
			B	*Sig.*	*Exp(B)*	*Lower*	*Upper*
Step 1[a]	Income Level	0,347	1,937	0,005	6,926	1,778	26,983
	Family Support		2,190	0,028	8,936	1,415	56,404
	Constant		-6,802	0,002	0,001		

The multivariate analysis reveals that both income level and family support have a significant relationship with the incidence of stunting in Tempel Rejo Village. Respondents with low income are 6.926 times more likely to have stunted children (P-value 0.005), while those with less family support face an even higher risk, being 8.936 times more likely to experience stunting (P-value 0.028). The Nagelkerke R Square value of 0.347 indicates that 34.7% of the variation in stunting is explained by income and family support, with the remaining 65.3% influenced by other factors, suggesting that family support plays a more critical role than income in preventing stunting.

The multivariate analysis in this study shows a significant relationship between income level and family support with the incidence of stunting in Tempel Rejo Village, Kedondong Sub-district. Respondents with low income were found to have a 6.926 times greater risk of having stunted children, while those with less family support faced an even higher risk at 8.936 times. The Nagelkerke R Square value of 0.347 indicates that 34.7% of the variability in stunting can be explained by income and family support, with 65.3% influenced by other factors. This suggests that family support plays a more critical role in preventing stunting than income.

The findings of this study align with previous research, such as the study by (Rosha 2018), which highlights a significant relationship between family income and the nutritional status of children. Families with low income tend to have limited purchasing power, making it difficult to provide a balanced and varied diet, which is essential for children's growth. Similarly, (Sari 2021) points out that low-income levels affect a household's ability to meet primary, secondary, and tertiary needs, which directly impacts the nutritional intake of children and increases the risk of stunting.

Further supporting this, (Soliman et al. 2021) found that a decline in income can lead to a decrease in food security, exacerbating malnutrition within families. This is consistent with [10], who noted that economic limitations increase the likelihood of stunting. Their research in Lubuklinggau City revealed that toddlers from low-income families are at a higher risk of stunting, highlighting the direct connection between family income and child nutritional outcomes.

In addition to income, family support plays a vital role in influencing the incidence of stunting. As demonstrated by (Subratha 2022), there is a significant relationship between maternal knowledge, family support, and stunting prevention efforts. Family support positively impacts a mother's ability to provide adequate nutrition to her child, as it encourages and motivates proper

caregiving practices. A lack of family support, on the other hand, can delay interventions and exacerbate growth delays in children.

Research by (Wulandari and Kusumastuti 2021) and (Elinel and Afni 2022) further emphasizes the importance of family support in preventing stunting. Mothers with strong family support are more likely to engage in stunting prevention behaviors, such as ensuring proper nutritional intake for their children. The studies show that better family support leads to better stunting prevention outcomes, both in pregnant women and in mothers with young children, reinforcing the critical role of a supportive family environment in addressing stunting issues.

4. CONCLUSION

Families play a crucial role in preventing malnutrition in toddlers by recognizing and addressing nutrition issues early. It is essential for Posyandu cadres and health centers to provide education on nutrition and health, focusing on stunting prevention and the importance of family support for mothers. The findings of this study conclude that there is a significant relationship between both income level and family support with the incidence of stunting in toddlers in Tempel Rejo Village, Kedondong Sub-district, Pesawaran Regency. Notably, family support poses a greater risk factor for stunting than income, highlighting its critical role in preventing stunting in children.

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