



The Relationship Between Economic Status and the Incidence of Stunting in Toddlers Aged 2-5 Years

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ABSTRACT

Socioeconomic status affects a family's ability to meet their toddler's nutritional needs. Malnutrition problems, particularly stunting, are closely related to the quality and quantity of food consumed, where the factor determining food quality is income level. The aim of this study is to determine the relationship between economic status and the incidence of stunting in toddlers aged 2-5 years. The research design is correlational analytic with a cross-sectional approach. Economic status is the independent variable and the incidence of stunting is the dependent variable. The population of the study consists of all toddlers experiencing stunting at the Gayaman Village Posyandu, totaling 19 toddlers. The sample was taken using a total sampling technique comprising 19 respondents. Data were collected using socioeconomic questionnaires and observations of children's height and age. The data collected were tested using the Spearman rho test. The results of the study indicate that almost all respondents with high economic status toddlers are in. The results of the Pearson correlation test showed a value of $\rho = 0.010 < \alpha = 0.05$, thus H1 is accepted, meaning there is a relationship between economic status and the incidence of stunting. It is expected that health cadres monitor the height of toddlers so that early screening can be conducted for those at risk of stunting. In addition, cadres must also provide guidance to toddlers who are experiencing stunting and coordinate with health centre staff for their management.

Keywords: Economic Status, Stunting, Toddlers

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INTRODUCTION

Stunting issues need to receive attention from all parties due to the high cases. Various aspects can affect the high incidence of stunting, such as economic, political, health services, education, social, cultural, and environmental aspects.¹ Addressing nutritional problems is carried out through specific interventions and sensitive interventions implemented through cooperation between ministries and related agencies across sectors both at the Central Government, Provincial, Regency, and village government levels to meet the needs of stunting prevention facilities starting from services for pregnant women, childbirth, to toddler services such as education, provision of nutritional formulations.² The current problem of malnutrition is not only caused by a lack of food availability and certain nutrients but can also be influenced by economic status or poverty. Socioeconomic level affects a family's ability to meet the nutritional needs of toddlers; in addition, socioeconomic conditions also influence the choice of supplementary foods, mealtime, and healthy living habits..³ Toddlers (children under five years old) are the most vulnerable group to growth and development problems, because during this period the growth and development process occurs very rapidly. One of the most crucial public health challenges faced globally and nationally today is stunting. Stunting is a condition of growth failure in toddlers due to chronic malnutrition, especially in the first 1,000 days of life (HPK), so that children become too short for their age based on the anthropometric standard of height-for-age Z-score less than -2 Standard Deviations (SD).⁴

The impact of stunting not only affects the physical aspects of children in the short term, but also disrupts cognitive development, reduces intelligence, and increases the risk of non-communicable diseases in adulthood, which ultimately lowers human resource productivity in the future.⁵ Globally, the prevalence of stunting remains a concern for the World Health Organization (WHO). Risk factors that can influence the occurrence of stunting in toddlers living in rural and urban areas include maternal education, family income, maternal knowledge about nutrition, maternal caregiving practices, exclusive breastfeeding, age of introduction of complementary foods, zinc adequacy, iron adequacy, history of infectious diseases, as well as genetic factors from parents. However, maternal employment status, number of family members, immunization status, energy adequacy, and low birth weight status can also be triggering factors that affect the occurrence of stunting.⁶ The issue of improving nutrition is indeed related to many factors, one of which is the problem of a proper diet. Nutritional deficiencies, especially stunting, are closely linked to the quality and quantity of food consumed, where the determining factor

for food quality is income level. However, an increase in income does not always lead to improvements in food consumption, as higher spending is not necessarily used for food.⁷ Stunting in toddlers is a risk factor that increases mortality rates, reduces cognitive abilities and motor development, and leads to imbalanced functions. Moral development and the foundations of personality also form during growth. Utilising posyandu services is one of the determinants of stunting in toddlers. A toddler's participation in posyandu significantly impacts the monitoring of nutritional status. Monitoring a toddler's growth at posyandu is an effort to early detect growth disorders so that prevention of stunting can be carried out. Besides growth monitoring, toddlers at posyandu will receive immunisation, vitamin A capsules, nutrition and health education, supplementary food, and diarrhoea management.¹

The causes of stunting can be divided into direct and indirect causes. Direct causes include inadequate nutritional intake and repeated infectious diseases in toddlers. Meanwhile, one of the underlying indirect causes of this condition is the family's socio-economic factors. Household economic status, measured by income level, parents' occupation, and family expenditure, plays a very significant role in determining the quality of a child's growth and development.⁴ The relationship between economic status and the incidence of stunting lies in the family's purchasing power. Families with low economic status or below the Regional Minimum Wage (UMR) tend to face limited access to nutritious, balanced, and safe food. This financial limitation forces families to prioritise the quantity of food over nutritional quality, resulting in toddlers lacking animal protein, vitamins, and essential minerals needed for bone and body tissue growth. Conversely, families with high economic status have a better capacity to provide ideal nutritional care and quality complementary foods for breast milk (MP-ASI).⁸

Based on data from the Centre for Economic Policy Research (PPKE), low family income is one of the dominant risk factors that can significantly increase the likelihood of stunting in children compared to well-off families. In addition to issues with meeting nutritional needs, low economic status is closely related to limited access to healthcare services, low levels of parental education/nutritional knowledge, and poor sanitation facilities and access to clean water in the household environment. Environments with poor sanitation increase the risk of toddlers contracting infectious diseases such as diarrhoea and repeated worm infestations. These infectious diseases disrupt the absorption of nutrients in the intestines, accelerating the occurrence of chronic malnutrition, which ultimately leads to stunting.⁹

METHOD

This study uses a cross-sectional study design, which is a type of analytical correlation research. Cross-sectional research can be used to explore the relationship between economic factors and the incidence of stunting in toddlers. The sample includes all toddlers experiencing stunting at the Posyandu in Gayaman Village, Mojoanyar District, Mojokerto Regency, using probability sampling - total sampling. The independent variable of this study is Economic Status, while the dependent variable is the incidence of stunting.

RESULTS

Based on the research, the results obtained :

Table 1. Distribution of Respondents' Characteristics and Research Results

No.	Variable	N	Total %
1	Gender		
	Female	8	42,1
	Male	11	57,9
	Total	19	100
2	Work		
	Housewife	11	57,9
	Private	8	42,1
	Total	19	100
	Economic status		
3	High	10	52,6
	Low	9	47,4
	total	19	100
	The incidence of stunting		
4	Very Short	9	47,4
	Short	10	52,6
	Total	19	100

Based on the frequency distribution presented in the table, a total of 19 respondents were included in this study. In terms of gender, the majority of respondents were male, accounting for 11 respondents (57.9%), while female respondents totaled 8 individuals (42.1%). This finding indicates that male respondents were slightly more dominant in the study population than female respondents.

Regarding occupational characteristics, 11 respondents (57.9%) were housewives, whereas 8 respondents (42.1%) worked in the private sector. These results show that more than half of the respondents were housewives. This occupational distribution may reflect differences in daily activities, access to health information, household responsibilities, and involvement in childcare practices among the respondents.

Based on economic status, 10 respondents (52.6%) were categorized as having a high economic status, while 9 respondents (47.4%) were classified as having a low economic status. The distribution between the two economic groups was relatively balanced, although respondents with a high economic status were slightly more prevalent. Economic status is an important characteristic because it may be associated with household purchasing power, access to nutritious food, healthcare services, sanitation facilities, and other resources related to child growth and development.

With regard to the incidence of stunting, 10 children (52.6%) were categorized as short, while 9 children (47.4%) were classified as very short. These findings indicate that all children included in the study experienced stunting, with the short category representing the largest proportion. However, the proportion of children in the very short category was also relatively high. This condition suggests that growth problems among the study participants remain a serious concern and require attention through appropriate nutritional, health, and family-based interventions.

Overall, the characteristics of the respondents were relatively evenly distributed across gender, economic status, and stunting severity. Nevertheless, male respondents, housewives, respondents with a high economic status, and children categorized as short constituted the largest proportions in their respective groups. These descriptive findings provide an overview of the study population and may serve as a basis for further analysis of the relationship between respondent characteristics and the incidence or severity of stunting.

DISCUSSION

1. Economic Status of Mothers with Toddlers at the Gayaman Village Health Post, Mojoanyar District, Mojokerto Regency

Economics has developed into a science, so economics means knowledge arranged systematically for the purpose of managing a household. The position of an individual and family is based on economic

factors. Socio-economic status is the position occupied by an individual or family in relation to commonly accepted average measures of cultural ownership, effective income, ownership of goods and participation in community group activities.³

According to the researchers' assumption, most respondents fall into the high economic status category. Although many respondents do not work or are housewives, most of their husbands work in companies because Ngoro District is an industrial area, so the income earned by their husbands is above the minimum wage, and most respondents also run boarding house businesses, providing them with additional income to meet family needs. Meanwhile, respondents with low economic status still earn below the minimum wage and do not have other sources of income. The family's socioeconomic level can be observed from the household income. This serves as the fundamental capital towards a prosperous family, so all families hope to achieve maximum income to support their living needs. Therefore, families are willing to undertake various efforts- Various types of businesses are undertaken to earn sufficient income. However, even though the family income is adequate to meet the family's food needs, the family's knowledge regarding proper feeding practices, especially for toddlers, is limited, which can lead to stunting in toddlers.⁵

2. Incidence of Stunting in Toddlers at the Gayaman Village Posyandu, Mojoanyar District, Mojokerto Regency

Stunting is a chronic condition of poor linear growth in a child, which is the result of the cumulative impact of various factors such as poor nutrition and health before and after the child's birth.¹⁰ Stunting is a disorder of past physical growth, characterised by a reduced growth rate in human development, which is primarily caused by malnutrition. Malnutrition results from an imbalance of growth factors (internal and external factors). Malnutrition can occur during various growth periods, such as during pregnancy, the perinatal period, breastfeeding, infancy, and the growth period (childhood). It can also be caused by deficiencies in various nutrients, such as micronutrients, protein, or energy.¹¹

According to the researcher's assumption, most respondents fall into the short stunting category. The occurrence of stunting is indirectly influenced by socio-economic factors, such as the level of education, family income, and food availability. Food availability refers to a family's ability to meet their nutritional needs adequately in terms of quantity, quality, and safety. Continuous lack of food in a family can lead to malnutrition-related diseases. This is also indicated by respondents having a history

of infections in this study, as well as the mothers' educational background, which is primarily secondary education, tending to have limited understanding of information regarding stunting prevention during pregnancy and infancy.

3. The Relationship Between Economic Status and Incidence of Stunting at the Gayaman Village Integrated Health Post, Mojoanyar District, Mojokerto Regency

Based on the data above, almost all respondents with high economic status had toddlers in the short stunting category with 8 respondents (80%). Meanwhile, in the low economic status group, almost all toddlers fell into the very short stunting category with 7 respondents (77.8%). The chi-square test results showed that 75% of the expected count values were less than 5, so the chi-square test requirements were not met, and the Fisher exact test was used with a value of $p = 0.023$, $\alpha = 0.05$, $r = 0.578$. This indicates that the value of $p = 0.023 < \alpha = 0.05$, so H_0 is rejected and H_1 is accepted, meaning there is a relationship between economic status and the incidence of stunting at the Posyandu in Gayaman village, Mojoanyar district, Mojokerto Regency. Based on the correlation coefficient value, $r = 0.578$, indicating that the two variables have a fairly strong relationship. Low economic status leads to inaccessibility in meeting daily nutritional needs, ultimately meaning that economic status has a significant effect on the occurrence of malnutrition. Toddlers from families with low economic status are twice as likely to experience stunting compared to toddlers from families with high economic status. Socioeconomic status is also greatly influenced by family income; if household food access is disrupted, particularly due to poverty, malnutrition-related diseases, such as stunting, will inevitably occur.⁶

The tendency for stunting in toddlers is higher in families with low economic status. Malnutrition, particularly stunting, is more influenced by socio-economic dimensions. Furthermore, household economic status is considered to have a significant impact on the probability of a child becoming short and thin. Economic status can indirectly affect a child's nutritional status. For example, families with good economic status can also access better public services, such as education and healthcare. Family income limitations also influence the quality of food prepared daily, both in terms of quality and quantity. Prolonged poverty can result in households being unable to meet nutritional needs, which can lead to insufficient nutrition for child growth. Meanwhile, families with high economic status tend to still lack understanding of how to provide age-appropriate nutritious food, meaning children may not experience stunting, and they also lack knowledge on how to prevent stunting during pregnancy and in toddlers.⁸

CONCLUSION

Families with low economic levels are at higher risk of having stunted toddlers due to limited purchasing power for nutritious food and access to facilities. Limited household income may reduce families' ability to provide nutritious food and obtain adequate healthcare, sanitation, and other resources needed to support optimal child growth. However, economic status should not be regarded as the only contributing factor, as parental knowledge, feeding practices, infectious diseases, and access to health services may also influence stunting. Therefore, stunting prevention should combine economic support with nutrition education, regular growth monitoring, early detection, and continuous collaboration among families, health cadres, and healthcare professionals. Considering the small sample size and cross-sectional design, further studies involving larger populations are recommended to confirm these findings and identify other contributing factors.

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