



## The Effectiveness of Parents Income Factor, Genetic Factor and Parents Behavior to Stunting at Sukamaju Village, Sako District, Palembang City

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### ABSTRACT

This study aims to examine the effectiveness of parents income factor between genetic factor and parents behavior to stunting at Sukamaju Village, Sako District, Palembang City. Stunting problems describe very bad nutritional problems, influenced by the condition of the mother or expectant mothers, fetal period, and infant or under-five years, including illness suffered during childhood. Analysis of the percentage or coefficient of income levels, genetic factors and the behavior of the elderly in children under five with stunting cases. The results show 39 children under five who experienced stunting out of 100 respondents under five who were studied. The level of income, genetic factors and parental behavior relate to incidence of stunting among toddlers in Sukamaju village.

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### 1. Introduction

The presence of the corona virus has brought big changes to the world, including Indonesia. The corona virus has had a huge impact on Indonesia in all sectors of life, including economy, social, education and health. Currently, many Indonesians have lost their livelihoods as a result of the corona outbreak. This greatly affects the level of income and welfare of the community in daily life. In fact, many people are not able to meet the basic needs of their families so that many of them are unable to provide adequate and balanced nutrition for their children

Children are the nation's next generation who can determine the direction of the nation to become a better nation in the future. Quality children are the most important assets in the development of a country. The quality of children is very influential on good children's development according to their age developmental stages. Not infrequently, there are many children with an age range of 0 to 60 months who have a history of certain diseases that can inhibit the development of a child that is not in accordance with the stage of the child's age in

general. One of the causes of child development that does not match their age can be categorized as stunting.

Stunting is a chronic undernutrition status condition during the child's growth and development since early life. According to WHO, stunting is conditioned with a z-score of height for age (height / age) less than -2 standard deviation (SD). Stunting cases in Indonesia in 2020 amounted to 30.7 percent, which is higher than the WHO standard of 20 percent for stunting cases (Media Indonesia, 2020). Palembang City itself, based on data from the Palembang City Health Office, there were 4,641 children under five who experienced stunting cases out of 113,718 children in Palembang City. Stunting is susceptible to infection at the age of 0-2 years, and there are 1,075 toddlers at that age, then 3-5 years of age who are positive for stunting there are 2,806 children under five. This data is from 18 sub-districts and among them there are ten areas that are scattered as locus of stunting intervention.

Stunting is a chronic growth disorder in children due to lack of nutrition and quality nutritional intake for a long time. As a result, children who are stunted are generally shorter than their age. This partly follows the

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genetic factors of both parents. Efforts to improve stunting can be done by increasing knowledge of children's nutrition so that it can improve the behavior of parents in educating and monitoring the development of children's development.

## 2. Theory

Stunting is a very bad condition that describes stunted growth due to long-term malnutrition. The short and very short definition is nutritional status based on the Body Length Index for Age (PB / U) or Height for Age (TB) / U) which is both stunted (short) and severely stunted (very short). Short toddlers are toddlers with nutritional status based on length or height according to age when compared to WHO standard, the Z score is less than -2SD and is categorized as very short if the Z score is less than -3SD (Ministry of Health, RI 2016). Stunting in children is the main indicator in assessing the quality of human capital in the future. Growth disorders suffered by children early in life can cause permanent damage (Anisa, 2012)

Diagnosis and classification of short toddlers (stunting) can be known if a toddler has measured his length and height, then compared with standards and the results are below normal. Physically, toddlers will be shorter than toddlers their age (Ministry of Health, 2016). Abbreviation refers to children who have a low TB / U index. Short can reflect either normal variations in growth or deficits in growth. Stunting is a linear growth that fails to reach its genetic potential as a result of health or suboptimal nutritional conditions (Anisa, 2012).



Figure 1. Child Height Measurement

The Covid -19 pandemic is currently bringing major changes to the socio-economic sector of the Indonesian people. This cannot be denied, considering that many people have lost their jobs, both private and self-employed employees due to the impact of Covid-19. Economic problems that are increasingly difficult today encourage many people who have difficulty getting the best food needs. So that often they ignore the need for

quality food consumption which results in worsening public health.

## 3. Research Method

This study uses quantitative research methods with multiple linear regression testing. The calculation method uses SPSS version 25.00 software which is carried out from July to October 2020. The population of this study were fathers or mothers who have children with an age range of 0 to 60 months who live at Sukamaju Village, Sako District, Palembang. Based on the population data in the one urban villages, 100 respondents were obtained using the Slovin formula. The research was conducted by observing the research object, distributing questionnaires to respondents and documentation for each research treatment. The results of the questionnaire will be calculated by testing the validity, reliability, testing of multiple linear regression analysis on the SPSS version 25.00 software application.



Figure 2. Distributing Questionnaires



Figure 3. Distributing Stunting Questionnaires

The data taken in this study is information about parental income, genetic factors inherited from parents to children and parental needs during pregnancy and after childbirth. obtained by observation and distribution of questionnaires. Meanwhile, the measurement of the toddler's height uses a height measurement tool in centimeters according to the standards of the Indonesian

Ministry of Health. The data of each respondent will be assessed (scoring) using the Guttman scale (Sugiono, 2010), where the score is 1 for the yes category and 0 for the no category. Then the data will be grouped based on the type of variable and calculated as a whole for each variable. The results of the scoring for each respondent's data will be calculated using the formulation of multiple linear regression analysis with the following formula:

$$Y = a + b_1x_1 + b_2x_2 + \dots + b_nx_n$$

Y = dependent variable

a = constanta

b<sub>1</sub> ... b<sub>n</sub> = coefficients

x<sub>1</sub> ... x<sub>n</sub> = independent variable

## 4. Results

### 4.1 Descriptive analysis

From 100 children under five aged 0 to 60 months, only 39 children under five in Sukamaju Village suffer from stunting. Based on calculations using multiple linear regression testing, it was found that the R value was 0.660 which indicated that there was a strong relationship between the independent variables, namely the level of parental income, genetic factors and parental behavior towards stunting children. The contribution of independent variables (income level, genetic factors, and Parents' behavior towards the dependent variable Y (stunting children) is 43.5% which can be seen from the R square value. The results show that the F count (26.642) > F table (2.72) can be concluded that there is a significant simultaneous influence on income levels, genetic factors and parental behavior on stunting children

Table 1. Regression results

Variables	Coef.	SE	t	p-value
Constant	0.376	0.620	0.606	0.546
Income	0.374	0.088	4.250	0.000
Genetic	0.046	0.144	0.323	0.747
Behavior	0.491	0.090	5.437	0.000

Source: SPSS 25.00

As for the partial test or t-test, it was found that the level of income and behavior of parents influenced the incidence of stunting because the t value of each variable x, namely the level of income and behavior of parents is greater than the t table value of (1,984). From the test in table 4.4. above, it is found that the variable x, namely genetic factors, does not have an effect on the y variable, namely the incidence of child stunting, this is because the t value of 0.323 is smaller than the t table value of 1,984.

Based on the partial test calculation, it is clear that parental behavior has a dominant influence on the formation of children with the incidence of stunting aged 0 to 60 months. This is because the value of parental

behavior is the greatest among the other x variables, which is 0.507. This can occur because the behavior of parents is starting before pregnancy, the pregnancy process and after childbirth during the parenting process has an important role in shaping the incidence of stunting in toddlers.

At the income level, it is calculated that the level of parents' income affects the incidence of stunting children aged 0 to 60 months. This can be seen from the results of t count on the level of parents' income, which is 4,250 which is greater than the t table value of 1,984. The level of income is very influential because parents' income greatly affects the quality of children's nutrition, especially in terms of providing quality and nutritionally balanced food. Especially for children aged under five who really need nutritious and balanced nutrition in the process of child development. Especially during the Covid 19 pandemic like today, children and parents must always maintain a balanced diet to increase the body's immunity which can prevent various chronic diseases. Table t-test also shows that the income level has a coefficient of 0.374 for variable x1, which means that the incidence of stunting will increase by 0.374 units from the income level.

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## 5. Discussion and conclusion

Stunting occurs in children with an age range of 0 to 60 months where the incidence of stunting is influenced by the level of parents' income and the behavior of parents in providing care for children under five. The level of income greatly affects the occurrence of stunting in children under five. This is because parents' income has an important role in providing quality nutritious food to children under five. Adequacy of nutrition and quality food with balanced nutrition will reduce the incidence of stunting in toddlers.

The likelihood of good child development increases with maternal education and decreases with stunting. The

risk of stunting decreases with birth-length and maternal height, and increases with maternal age

Likewise, the behavior of parents has a very big role in preventing cases of stunting in toddlers. This can be seen from the behavior of the parents before doing the pregnancy program, during pregnancy and after the birth of the baby. Especially the behavior of parents in providing vitamins and pregnancy checks. Complete immunization is also one of the factors that can affect the incidence of stunting in children under five. The bad habits of parents who smoke and get married under the age of 19 are also a factor that is closely related to the behavior of parents in cases of stunting in toddlers.

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