RELATIONSHIP BETWEEN AGE OF MOTHER AT PREGNANCY WITH INCIDENCE OF STUNTING IN UNDER-FIVES IN THE KALIRUNGKUT SUB-DISTRICT, SURABAYA

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ABSTRACT

Background: Stunting is an event of malnutrition, especially in toddlers that lasts a long time and stunting has several impacts including an increased risk of morbidity in the form of an increased risk of occurrence and also mortality that can be caused by infection. According to research, there are several causes of stunting, starting from pregnant women to giving birth and caring for babies to toddlers. Maternal age during pregnancy is one of the factors causing stunting.
Purpose: This study aims to determine the relationship between maternal age during pregnancy and the incidence of stunting in toddlers.
Research Method: This study used an analytic observational study with a case control approach consisting of a case group (stunting) and a healthy group (not stunting). The population in this study were all mothers with stunted and non-stunted children who visited the Posyandu in the Kalirungkut Village Surabaya with a sample of 1:1 or 30:30 for each group. Data analysis using the Chi Square Test.
Research Results: The results showed that there was a relationship between the age of the mother during pregnancy and the incidence of stunting in toddlers with a P Value of 0.000 <0.05. The Contingency Coefficient results obtained an approximate significance (P Value) value of 0.000 <0.05, meaning that there was a significant relationship between the age of the mother during pregnancy and the incidence of stunting. The correlation value obtained is 0.535, it can be interpreted that the strength of the relationship between maternal age during pregnancy and stunting status in toddlers is strong

Keywords: Stunting, Maternal age during pregnancy, Toddlers

INTRODUCTION

Until now stunting or short toddlers are still a health problem in Indonesia, various efforts have been made by the government in an effort to eradicate and prevent stunting problems. Based on research results from the 2021 Indonesian Nutritional Status Study (SSGI), it was found that currently the national prevalence of stunting has decreased by 1.6% each year. Initially 27.7% in 2019, the number has decreased to 24.4% in 2021 (Kemenkes RI, 2021).

The majority of almost all of the 34 provinces show an improvement in conditions marked by a decrease in the incidence of stunting. When compared to 2019, only 5 provinces showed a binding number of events. This proves that the implementation of government policies launched since 2018 and is targeted to produce results in 2024. In an effort to accelerate the reduction in the number of stunting cases in Indonesia, it has produced quite good results and can be said to be successful (Kemenkes RI, 2021).

The decline in the number of stunting cases in East Java Province, until 2021, recorded as many as 23.5% of cases found. For the latest data from the City of Surabaya, it was recorded that 28.9% were found. While the latest data on the prevalence of stunting in the Kalirungkut Subdistrict, Surabaya, which is the location of this study, the prevalence rate still reaches 19.98% of cases. The health problem of stunting is still around us and cannot be ignored. Still, it requires serious attention from both the government and the community, so that the efforts made previously can be achieved to the fullest. And the number of stunting incidents, especially in the city of Surabaya, can again show good and maximum progress in the form of reducing the number of incidents to be smaller than before (SSGI, 2021 ; Arini *et al*., 2022).

Stunting describes poor linear growth and affects more than 149 million children worldwide. Stunting can occur from the time the fetus is formed (in the womb) and can only be seen after the child is 2 years old. This condition causes considerable morbidity in affected children and is associated with decreased cognition, poor academic performance, lower productivity in adulthood and an increased incidence of non-communicable non-communicable diseases in adulthood (Imam *et al*., 2021; Kemenkes, 2022).

The risk factors for short toddlers or stunting in Indonesia can be caused by multivariate factors; maternal, childern, and environmental factors. Many studies have proven that the following factors can significantly influence the incidence of

stunting, including; parents' education, mother's age during pregnancy, socioeconomic conditions, nutritional status of mother during pregnancy, infectious diseases during pregnancy, and other prenatal factors. Birth weight, premature birth age (not enough months), history of exclusive breastfeeding, history of infectious disease infection during infancy, and other factors at birth that also correlate with stunting (Santosa *et al.*, 2022).

One of the risk factors related to maternal is the age of the mother when experiencing pregnancy. Short babies or stunting are caused by prolonged (chronic) and complex nutritional problems that occur in toddlers from the time they are in the womb to growing into children. and psychological influence on children's growth, namely stunting or short babies (Pusmaika *et al.*, 2022).

The optimal age for a woman to reproduce is between the ages of 20-35 years. Because at that age is a woman's fertile period, so that the stamina she has is more abundant and there is minimal risk for pregnancy (Sukma *et al.,* 2020 ; Sukorini, 2017).

Based on the description above, the researchers were moved to carry out research on the relationship between maternal age during pregnancy and the incidence of stunting in Kali Rungkut Village, Surabaya.

RESEARCH METHODS

Research Design

Research on "Relationship between Maternal Age at Pregnancy and Stunting Incidence in Toddlers in Kalirungkut Village, Surabaya" is an analytic observational study with a case control approach. Data collection was carried out by survey and using questionnaires.

Populasi dan Sampel

The population in this study were residents of the Kalirungkut sub-district whose toddlers were stunted. The sample was divided into 2 groups, namely the control group (stunting) and the healthy group. The number of samples is 1:1 or 30:30 people.

Data Analysis

The data analysis used is the Chi square test. These results will also be strengthened by the Contingency Coefficient results and the Odd ratio (OR) results.

HASIL PENELITIAN

Table 1 Stunting Incidence Frequency

Status Stuntimg	**Jumlah**	**Persen (%)**
Stunting	30	50%
Tidak stunting	30	50%
Jumlah	**62**	100 %

Sumber: data primer hasil penelitian 2023

Based on table 1, it shows that 30 people

(50%) of the total respondents were stunted, and 30 other people were not stunted.

Table 2. Frequency based on mother's age

Usia Ibu	**Jumlah**	**Persen (%)**
Beresiko Usia <20 atau >35 tahun	29	48,3%
Tidak beresiko Usia 20 – 35 tahun	31	51,7%
Jumlah	**60**	100 %

Table 2 shows that there were 29 people (48.3%) with a total age of at risk of <20 or >35 years. Normal maternal age 20-35 years as many as 31 people (51.7%)

Table 3 Relationship between the age of the mother during pregnancy and the incidence of stunting

Usia Ibu	Status Stunting				OR 95% CI	P *Value*
	Stunting		Tidak Stunting			
	n	%	n	%		
Beresiko (Usia <20 atau >35)	24	82,8 %	5	17, 2%	20,000 (5,384 – 74, 298)	0,000
Tidak beresiko (Usia 20 – 35	6	19,4 %	25	80, 6%		
Total	30		30			

Source: primary data from 2023 research results

Table 3 above from a total of all respondents (60 people) obtained the result that 30 people (50%) experienced stunting from the case group and 30 people (50%) did not experience stunting from the control group. As many as 24 people (82.8%) of children under five experienced stunting from the age of the mother who was at risk during pregnancy, and 6 people (19.4%) experienced stunting from mothers who were not at risk. Toddlers with non-stunting status are 5 people (17.2%) from the age of mothers who are at risk and 25 people (80,6%) not stunting from maternal age which is not at risk. The results of the Chi Square statistical test showed a P Value of 0.000 (<0.05) meaning that there was a relationship between the age of the mother during pregnancy and the incidence of stunting in toddlers in the Kalirungkut Village.

Table 4 Results *Contingency Coefficient*

		Value	Approx. Sig.
Nominal by nominal	Contingency Coefficient	.535	.000
N of Valid Cases		60	

Sumber: data primer hasil penelitian 2023

Based on table 4. The results of the Contingency Coefficient obtained an approximate significance (P Value) value of 0.000 <0.05, meaning that there is a significant relationship between the age of the mother during pregnancy and the incidence of stunting. The correlation value obtained is 0.535, it can be interpreted that the strength of the relationship between maternal age during pregnancy and stunting status in toddlers is strong.

The result of calculating the OR (Odds Ratio) is 20,000. This can be interpreted if a toddler born to a mother's age during pregnancy is in the risk category, has a

20,000 times chance of experiencing stunting compared to a toddler born to a mother whose age during pregnancy is not in the risk category (95% CI 5,384 – 74,298).

DISCUSSION

Stunting is a growth disorder that is often experienced by toddlers. Stunting is a health problem with a high prevalence in Indonesia. Stunting in toddlers occurs due to several factors, and one of these factors is the mother's factor during pregnancy (Primasari, Y. and Keliat, Budi Anna, 2020).

Over the past 3 years, the prevalence of stunting in Surabaya has continued to decline significantly, namely from 2020 there were 12,788 cases of stunting, down to 6,722 in 2021. At the end of December 2022, it had fallen again to 923 cases. In February 2023 stunting cases in Surabaya decreased to 872. One of the sub-districts in Surabaya that has the potential for stunting to occur is Kalirungkut Sub-District. There are 700 toddlers in the Kalirungkut sub-district, and some of the 700 toddlers are not tall enough (short) or even very short (Pemerintah Kota Surabaya, 2023).

The incidence of stunting is caused by several factors ranging from pregnant women to childbirth and when caring for babies from 0-60 months of age. Kalirungkut sub-district is a sub-district located in the city of Surabaya with the expectation that mothers in the area are educated women with extensive knowledge. Conditions in the field show that the average education of stunted mothers is SMA/SMK. In addition, there are also mothers with elementary and junior high school education. The higher the mother's education will certainly have an impact on the wider mother's knowledge, especially knowledge about stunting in toddlers.

According to the WHO framework published in 2013, it states that there are several causes of stunting in toddlers. The first cause is the mother and the environment around the house. Maternal factors include poor nutrition during pre-conception, early pregnancy, maternal mental health, premature birth, IUGR (Intra Uterine Growth Restriction), short birth spacing and hypertension. The second factor is breastfeeding which is then translated into late initiation of early breastfeeding, non-exclusive breastfeeding, and too early weaning (WHO, 2013).

The results showed that if the P Value of the Chi Square Test was 0.000 <0.05, it means that there is a relationship between the age of the mother during pregnancy and the incidence of stunting in toddlers in the Kalirungkut Village, Surabaya. The results of the Contingency Coefficient show a P Value of 0.000 <0.05, which means that there is a significant relationship between

age pregnant women with stunting. The correlation value obtained was 0.535, which means that the strength of the relationship between maternal age during pregnancy and stunting status in toddlers is strong. The results of calculating the OR (Odds Ratio) of 20,000 means that toddlers born to mothers whose age during pregnancy are at risk have a 20,000 times chance of experiencing stunting compared to toddlers born to mothers whose age during pregnancy is not at risk.

The high prevalence of young marriage will have an impact on the incidence of stunting. Age of pregnant women (maternal age) should not be too young and not too old. Age less than 20 years or more than 35 years, is at high risk of giving birth. In women who are pregnant at a young age, the biological mechanisms associated with premature birth, namely the blood supply to the cervix and uterus are not fully developed in some adolescents so that the impact on the flow of nutrients to the fetus during pregnancy is also not good. Low blood flow to the genital organs can increase the risk of infection in the genital organs which can also cause premature birth. The impact of premature birth is one of the factors that increase the occurrence of stunting in infants (Kusnandar, V.B. (2021).

Maternal age during pregnancy consists of age at risk for pregnancy and age not at risk for pregnancy. Age 20-35 years is a good age and is recommended for pregnancy. Meanwhile, mothers (< 20 years) or at old age (> 30 years) have a higher risk during their pregnancy. Pregnancy at an early age (<20 years) is said to be at risk due to the fact that at this age the physical condition and reproductive organs of the mother are still in the process of growth, so that during the pregnancy phase the blood vascularization of the mother to the fetus is still not optimal, and the mother still needs an adequate supply of nutrients for herself , so that the supply of nutrients for the baby will be reduced due to barriers to vascularization of the mother to the fetus (Putri, 2019).

The younger or older the mother during pregnancy, the greater the risk of experiencing pregnancy complications. A woman who becomes pregnant in her teens will receive less early prenatal care. The lack of care received is because teenage pregnancy or <20 years is predicted to cause low birth weight babies (LBW) and infant death. When pregnant women are <20 years old, most of them will get pregnant with a BMI that is less than normal so that they are at risk of giving birth to babies with LBW which is caused by a lack of nutritional intake or nutrition during pregnancy. Lack of nutritional intake due to concerns about body shape during adolescence and lack of education

about nutrition suspected as a factor of lack of BMI in teenage pregnancy or <20 years. Both of these resulted in a low increase in maternal weight during pregnancy which resulted in an increase in the number of babies born prematurely which is one of the causes of stunting in toddlers (Vivatkusol Y, 2017).

The risk of pregnancy that occurs in women aged less than 20 years and more than 35 years is closely related to the condition of fetal growth that is less than optimal. This proves that the age of the mother in pregnancy can result in suboptimal birth outcomes which inhibit the potential growth of the child so that it can cause stunting or failure to thrive (Pusmaika *et al.*, 2022).

CONCLUSION

The prevalence of stunting in the Kalirungkut sub-district is caused by several factors, one of which is the age of the mother during pregnancy. This was shown from the 30 case group respondents, most of whom were mothers at risky ages (<20 years or >35 years).

The results showed that there was a relationship between the age of the mother during pregnancy and the incidence of stunting in the Kalirungkut Village with a P Value of 0.000 <0.05. The results of the Contingency Coefficient Test obtained an approximate significance (P Value) value of 0.000 <0.05, meaning that there was a significant relationship between the age of the mother during pregnancy and the incidence of stunting. The correlation value obtained is 0.535, it can be interpreted that the strength of the relationship between maternal age during pregnancy and stunting status in toddlers is strong.

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