

Factors Related to the Event Stunting in Toddlers 25-59 Months in the Region Kolongan District Puskesmas North Minahasa District

Atik Purwandari¹, Gusti Ayu Tirtawati², Sandra Tombokan³, Sjeny Tuju⁴,
Joice Silangen⁵

^{1,2,3,4,5}Politeknik Kesehatan Kementerian Kesehatan Manado, Indonesia

atikpurwandari75@gmail.com, tritagustiayu@gmail.com, sandragjt@gmail.com, olgatuju@gmail.com,
joicesilangen@gmail.com

Abstract

Stunting (short) is a condition of failure to thrive in children under five as a result of chronic malnutrition so that children do not reach the ideal body size for their age. Children who are classified as short (stunting) have experienced chronic malnutrition since the beginning of their lives, on this basis, research on the problem of stunting is important to do. This research is an analytic observational research study with a case control design. The independent variables include age at first pregnancy, maternal height, birth weight, birth spacing, sanitation and clean water, parenting, maternal education, exclusive breastfeeding, complementary feeding and infectious diseases and the dependent variable is stunting. The sample is toddlers aged 25-59 months who experience stunting as many as 33 people. The results showed that there was no relationship between gestational age and stunting, $p = 0.609$, there was a significant relationship between maternal height and stunting, $p = 0.037$, there was a significant relationship between birth weight and stunting, $p = 0.017$, there was no relationship between birth spacing and stunting, $p = 0.805$, there is no relationship between sanitation and clean water with stunting, $p = 0.159$, there is no relationship between parenting and stunting, $p = 0.802$, there is a significant relationship between maternal education and stunting, $p = 0.044$, there is a significant relationship between exclusive breastfeeding and stunting, $p = 0.024$, there is a significant relationship between MP ASI and stunting, $p = 0.007$, there is a significant relationship between infectious diseases and stunting, $p = 0.007$. Based on the results of this study, many factors influence the incidence of stunting in children aged 25-59 months. For this reason, it is hoped that the Kolongan Health Center, Kalawat District, can improve the performance of midwives and nutrition workers at the puskesmas to be more active in providing counseling and counseling to pregnant women and mothers of children under five for the prevention and control of stunting in the Kolongan Health Center area.

Keywords

factors causing stunting;
stunting; toddlers



I. Introduction

Stunting (short) is a condition of failure to grow in children under five due to chronic malnutrition so that the child does not reach the ideal body size for his age. Children who fall into the short category (stunting) have been chronically malnourished since the beginning of their lives. This is as a result of repeated infections, and poor feeding and inadequate nutrition, as a result of which the child's growth and development becomes

hampered, not only physical growth and development but also the ability to think and intelligence become impaired. At least 20% of stunting cases begin since the baby is in the womb, therefore it is necessary to realize that the period of the First 1000 Days of Life (HPK) since the baby is still in the womb until the age of 2 years needs special attention. Good nutritional intake during the 1000 HPK period will have long consequences on children's health and thinking ability in the future (MCI-Indonesia 2017).

Stunting is a classification of indicators of the nutritional status of TB / U. Children who are said to be stunting is a child who has a height that is not in accordance with his age, usually he will be shorter than children his age. Stunting is a result of lack of nutritional intake over a long period of time, so children cannot catch up with their height growth. Skinny (wasting) is one of the classifications of bb /TB nutritional status indicators. Children are said to be thin are those who have a low weight that is not in accordance with the height they have. Wasting usually occurs in children during weaning or during the first 2 years, usually the risk of wasting will decrease. Wasting is a sign that the child is experiencing very severe malnutrition, usually occurring due to lack of food intake or infectious diseases such as diarrhea (Veratamala, 2017).

Toddlers are said to be short if the z score is body length according to age (PB / U) or height according to age (TB / U) less than $-2SD$ / standard deviation (stunted) and less than $-3SD$ (severely stunted). Stunting toddlers will have a level of intelligence is not optimal, become more resistant to disease, and in the future can be at risk of decreased productivity levels. Ultimately, broadly speaking, stunting will hinder economic growth and increase poverty (Ramayulis, 2018). Economic growth is still an important goal in a country's economy, especially for developing countries like Indonesia (Magdalena and Suhatman, 2020).

The national stunting rate in Indonesia is high, because according to the World Health Organization (WHO) in 2010, stunting prevalence is said to be high if it reaches 30-39% and is said to be very high if the prevalence reaches $> 40\%$. According to WHO data, there are 178 million children under five stunted. Africa and Asia are the two continents with the highest incidence of stunted toddlers in the world with their respective percentages. 40% and 36% (WHO, 2010).

Based on 2013 Riskesdas prevalence data. National stunting reached 37.2 percent, an increase from 2010 (35%) and 2007 (36.8%). The short prevalence of 37.2% consists of 18.0% very short and 19.2% short. Public health problems are considered severe when the prevalence is short by 30-39% $> 40\%$ (Ministry of Health, 2013).

The number of samples and population under two years (Baduta) according to nutritional status (TB / U) in Indonesia that more than 2 million Indonesian children aged 0-23 months have short nutritional status (short and very short). The largest province of short clowns is in NTT province (43.5%) while the lowest in DI Yogyakarta Province (24.5%).

II. Review of Literature

In North Sulawesi, according to data from the Provincial Health Office collected by The Monitoring of Nutritional Status (PSG) in 2015-2017 stunting toddlers reached 19.6% in 2015, and 2016 by 20.9% and in 2017 there was an increase in stunting prevalence of 26.9%. The prevalence of short and very short (stunting) in North Sulawesi Province is lower than the national figure (38%) (Kemenkes R I, 2013).

According to data from North Minahasa Regency in 2017 amounted to 26.3% consists of very short toddlers 11.3% and short 15%, meanwhile, data on clowns (under two years old) stunting in North Sulawesi in 2016 reached 20.9%, and in 2017 increased

by 26.9% and for North Minahasa Regency the trend of stunting clowns in 2016 reached 9.7%, while in 2017 there was an increase of 26.3%. (Dinkes Minut, 2017).

Research conducted by Aryastami (2017) the first 1000 days of life (1000 HPK) is the initial node of stunting growth, which otherwise has a long-term impact so that it repeats in the life cycle. With additional TKPM (High calorie, Protein and micronutrient) feeding programs for pregnant women, improved maternal and child health, reproductive health education for adolescents, childbirth assistance by health workers, good parenting and exclusive breastfeeding and strong breast milk and good environmental sanitation.

Based on preliminary study data in the Kolongan Health Center area on April 15, 2018, the stunting toddler data reached 92balita or 6% of the total number of toddlers in the Kolongan Health Center area as many as 1,608 toddlers. Looking at the Nutrition Status Monitoring (PSG) data above, it can be said that North Sulawesi Province, especially North Minahasa Regency, the problem of stunting is a serious problem.

Many factors cause stunting in children. These factors can come from the child himself or from outside the child. The cause of stunting can be caused by direct or indirect factors. The direct cause of stunting is nutritional intake and the presence of infectious diseases, while indirect causes are parenting, health services, food availability, cultural factors, economy and many other factors (Bappenas RI, 2013).

III. Research Method

3.1 Research Design

This research is an analytical observational research study with case control design design which is analytical research that concerns how risk factors are studied using a retrospective approach. In other words, the effects (disease or health status) are identified at this time, then risk factors are identified or occurred in the past (Notoatmodjo, 2010).

3.2 Research Time and Place

This research was conducted in the Kolongan Health Center Area of Kalawat District which was carried out in May - July 2018. This research began with the collection of data on stunting toddlers and interviews using questionnaires in the Kolongan Health Center Area, Kalawat District.

3.3 Informant

In this study, the sample of cases in this study was toddlers aged 25-59 months with TB / U less than-2 elementary school (stunting) which was recorded at 33 toddlers at the Kolongan Health Center, Kalawat District, North Minahasa Regency in 2018.

3.4 Data Collection Technique

The data collection techniques used by researchers are: observation, interviews, documentation and triangulation related to the object.

3.5 Data Validation

So that the data in qualitative research can be accounted for as scientific research, it is necessary to test the validity of the data. The data validity tests that can be carried out are; Credibility Test, Transferability, Dependability, Confirmability.

IV. Results and Discussion

The results of the study entitled "Factors related to stunting events in toddlers 25-59 months in the Kolongan Health Center Area of Kalawat District of North Minahasa Regency" were obtained from a questionnaire given to 33 mothers who had stunting toddlers and 33 mothers who had non-stunting toddlers at the age of 25-59 months and conducted live interviews using questionnaires. The results of this study can be presented as follows:

4.1 Research Location Description

Puskesmas kolongan was built in 1975 and is located in the village of Kolongan Kecamatan Kalawat, which has an area of 5,273.5 ha. The working area of the kolongan health center includes 12 villages, namely: maumbi village, watutumou, watutumou II, watutumou III, new comrades, tatempangan kolongan, kalawat, kawangkoan, suwaan, kolongan, kuwil and kaleosan.

The results of the analysis using the Chi Square test showed that there was no meaningful relationship between gestational age and stunting events where the values of $p = 0.609$, $p > 0.05$. The results of the analysis using the Chi Square test show that there is a significant relationship between maternal height and the incidence of stunting, where a value of $p = ., p < .$, Odds Ratio (OR) of $.,$ which means that the mother's low height (< 145 cm) has the opportunity/risk of giving birth to a toddler with stunting incidence of 2,000 times.

The results of the analysis using the Chi Square test show that there is a significant relationship between birth weight and the incidence of stunting where p value = 0.017 , $p < 0.05$ and OR value = 1.79 . This means that babies born with low body weight (LBW) have a 1.79 times risk of becoming stunted.

The results of the analysis using the Chi Square test showed that there was no significant relationship between sanitation and clean water with the incidence of stunting, $p = 0.159$ ($p > 0.05$).

The results of the analysis using the Chi Square test showed that there was no significant relationship between parenting and the incidence of stunting, $p = 0.159$ ($p > 0.05$). There is no relationship between parenting style and the incidence of stunting because the parenting pattern for both children with normal nutritional status and children with stunting nutritional status is mostly good.

Based on the results of research as described in the previous section there are 10 factors that have an effect, but there are only 6 factors associated with stunting events, while the other 4 factors have no relationship. The 6 related factors are; maternal height, low birth weight, maternal education, exclusive breastfeeding, breast milk companion foods, and infectious diseases.

4.2 Adolescent Pregnancy Relationship with Stunting

Pregnancy is the instinct of a mother. When a pregnant woman many things must be prepared well, including age at the time of pregnancy should be considered. Age at the time of pregnancy will indirectly affect the nutritional status of toddlers born.

In this study obtained data that it turns out that the mothers interviewed are mostly married at an early age. Mothers who have normal toddlers, as many as 22 people (67%) married at the age of < 20 years and mothers who have stunting toddlers as many as 20 people (60.6%) married at the age of < 20 years.

Early pregnancy is a factor that can affect the occurrence of stunting. Early age allows the growth that occurred at that time has not been completed to the maximum. Unfinished growth can be bad for the fetus that is carried by a young mother. Other risks experienced by adolescents who are pregnant at this age are giving birth to a baby with cephalopelvic disproportion (CPD = a mismatch between the baby's head and the mother's pelvis) and the birth prose by Caesarean section. This occurs due to the rudimentary development of the juvenile pelvic bone (Fikawati, 2016).

Women who marry too early or are still in the age group of children, mentally not ready to face the period of pregnancy and childbirth, which will affect the growth of the next offspring. Early marriage affects nutritional status, including stunting. In this study, there was no meaningful relationship between gestational age and stunting events, $p = 0.609$, because both mothers with normal toddlers and stunting toddlers, most married at an early age (< 20 years). The results of the study are contrary to Afifah's research which looked at the relationship between the age of the mother when married with a short nutritional status as seen from the tendency of the younger the mother's age when married, the proportion of toddlers with short nutritional status is increasing (Afifah, 2011).

4.3 Relationship of Height with Stunting

The results of this study, obtained data on mothers whose height is low (<145 cm) turned out to have stunting toddlers, which is as many as 15 people (46%). Mothers who have a short height have the opportunity to produce stunted children. The results of statistical analysis showed that stunting children mostly had mothers with low height (46%), compared to children who had normal nutritional status (22%) so that statistically showed there was a meaningful relationship ($p = 0.037$) the height of toddler mothers with stunting incidence with OR 1.67, meaning that mothers who have low height have a risk of 1.67 times stunting.

The relationship of maternal height with stunting events can be said that the genetic factors of a mother have an important role in determining the growth of the next generation. The slowdown in growth at the age of 3-6 months in a toddler's life is a reflection of genetic factors that have been passed down by his parents.

The results of this study are in line with research conducted by Zottarelli (2007) in Egypt that mothers who have a height of <150 cm are more at risk of having stunted children than mothers with a height of >150 cm. In addition, according to Naik R & R Smith (2015) that mothers with stunting will potentially give birth to children who will experience stunting and this is called the cycle of malnutrition between generations. Another supporting research is research conducted by Kartikawati, (2011) which states that genetic factors in mothers, namely height, affect the incidence of stunting in toddlers. But this does not apply if the short nature of parents is caused due to nutritional or pathological problems experienced by parents. So, it will not affect the child's height.

Height is one form of genetic expression, and is a factor that is passed down to children and related to the incidence of stunting. Children with short parents, either one or both are more at risk of stunting when compared to children who have parents with normal height (Supariasa et al, 2007).

Mambolo et al (2007) explained that parents who are short because of genes in chromosomes that carry short traits are most likely to pass on such short traits to their children. If the short nature of parents is caused by nutritional or pathological problems, then the short nature will not be passed on to the child. This study examined factors that affect the height of parents so it is indistinguishable whether the height of the parents is

currently a genetic influence or due to pathological influences or malnutrition. Height <145cm increases the risk for preterm delivery (Black et al. 2013).

4.4 Birth Weight Relationship with Stunting

In this study, most stunted toddlers (46%) had a history of birth with low weight (BBLR) compared to normal children (18%). So statistically low birth weight shows a relationship with stunting events.

BBLR is defined by who as birth weight <2500 grams. Newborns who have a birth weight of <2500 grams due to premature birth, or small birth for gestational age. (WHO, 2006). BBLR is caused by a lack of nutrients. Malnutrition causes cell growth to be disrupted so that the cell is more dwarf than normal cells resulting in BBLR and short babies (stunting). This condition can have a great impact on the growth of children, permanent child development because there has been programming in the cells of the baby's body (Barker, 2008).

V. Conclusion

Based on the results of this study, many factors influence the incidence of stunting in children aged 25-59 months. For this reason, it is hoped that the Kolongan Health Center, Kalawat District, can improve the performance of midwives and nutrition workers at the puskesmas to be more active in providing counseling and counseling to pregnant women and mothers of children under five for the prevention and control of stunting in the Kolongan Health Center area.

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