

THE RELATIONSHIP BETWEEN HISTORY OF EXCLUSIVE BREASTFEEDING WITH STUNTING INCIDENCE IN TODDLERS AGES 1-3 YEARS

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Abstract

Stunting in toddlers aged 1-3 years is of particular concern because it enters 1000 HPK which is a critical period, this can cause physical and mental development delays in children. Exclusive breastfeeding is one of the factors that can affect stunting. This study was to determine the relationship between a history of exclusive breastfeeding and the incidence of stunting in toddlers aged 1-3 years. The research method used was analytic observational with a case control research design. The population of all toddlers aged 1-3 years at the Wonorejo Health Center is 425 toddlers. The results showed that there was a relationship between a history of exclusive breastfeeding and the incidence of stunting in toddlers aged 1-3 years in the Wonorejo Health Center working area (p-value = 0,000 <= 0,05) with a value (Odds Ratio = 24,000). There is a relationship between a history of exclusive breastfeeding and the incidence of stunting in toddlers aged 1-3 years. This study suggests the Puskesmas to increase promotion to mothers regarding the importance of exclusive breastfeeding, prevention and the dangers of stunting.

Keywords: *Stunting, history of exclusive breastfeeding, toddlers 1-3 years*

INTRODUCTION

The World Health Organization (WHO) in 2017 stated that 22.2% of children in the world or around 150.8 million children were still stunted¹. The Ministry of Health in 2018 stated that the prevalence of stunting in children under five nationally was around 30.8%, which means a decrease compared to 2013 of 37.2%, based on the prevalence of stunting, stunting in Indonesia is still a problem because it is still above the tolerance set by WHO which only 20%².

The results of the Basic Health Research (Riskesdas) in 2018 for the East Kalimantan area showed stunting cases were ranked 14th with a prevalence of 24%³. Based on a preliminary study conducted by researchers at the Samarinda City Health Office, nutritional status according to TB/U in 2020 for the stunting category was 1401 toddlers, with male sex as many as 793 toddlers and female as many as 608 toddlers, the highest number of stunting toddlers is located in the working area of the Wonorejo Health Center is among 26 other health centers, with a total of 200 toddlers with male gender totaling 115 toddlers and girls totaling

85 toddlers at the age of 0-59 months. The number of toddlers aged 1-3 years at the Wonorejo Health Center reached 425 toddlers with 90 or 21,18% of them experiencing stunting.

Stunting is a condition when a child's height is shorter than the height of a child in general or his age⁴. Stunting in toddlers aged 1-3 years needs special attention because it is included in the first 1000 days of life which is a critical period of stunting. Mental health also has a risk of decreasing intellectual ability, productivity, and increasing the risk of degenerative diseases⁵.

According to research by Rahmad and Miko in 2016 in Banda Aceh City, it was stated that the incidence of stunting was caused by several indicators, namely, low family income, non-exclusive breastfeeding, poor complementary feeding, incomplete immunization, and where the most dominant factor was the provision of breastfeeding, non-exclusive breastfeeding⁶. The determinant of growth failure (stunting) in children aged 1 to 3 years in Tanjungkarang Barat District, Bandar Lampung City, non-exclusive breastfeeding is a 3,70 times risk factor for stunting⁷.

Exclusive breastfeeding is one way to reduce the incidence of stunting, while according to the World Health Organization (WHO) it is stated that only two-fifths of infants experience IMD and only about 40% of infants are exclusively breastfed. Meanwhile, exclusive breastfeeding in Indonesia is still far from expectations. Based on the 2018 Indonesian Health Profile Data, the percentage of infants who received exclusive breastfeeding was 68,74%³. This figure has not reached the target of exclusive breastfeeding coverage set by the government, which is 80%.

In East Kalimantan, it has reached 70,02%. Meanwhile, for the city of Samarinda, the number of babies who received exclusive breastfeeding was 81,4%, namely 4,627 babies from 5686 babies in the city of Samarinda. Meanwhile, for the coverage of the Wonorejo Health Center Work Area in 2020, the number of babies who received exclusive breastfeeding was 73,171%, namely 240 babies from 328 babies in the Wonorejo Health Center Work Area.

Based on the above background, the researcher is interested in conducting a research entitled The Relationship between Exclusive Breastfeeding History and Stunting Incidences in Toddlers Age 1-3 Years at the Wonorejo Health Center.

MATERIAL AND METHODS

This research was conducted in the Wonorejo Community Health Center, Samarinda, East Kalimantan, from May 25, 2021 to June 25, 2021. The research method was observational analytic with a case control research design.

The population in this study were all stunting toddlers aged 1-3 years in the Wonorejo Health Center Work Area, which were 90 toddlers. Sampling used purposive sampling

technique with a sample of 46 toddlers aged 1-3 years in the Wonorejo Health Center working area which was divided into 23 toddlers in the case group (stunting) and 23 toddlers in the control group (not stunting). The inclusion criteria and exclusion criteria in this study:

a. Inclusion Criteria

1) Case Group

- a) Toddlers aged 1-3 years who suffer from stunting.
- b) Toddlers in the Wonorejo Health Center working area who were born with normal gestational age and weight (known from the birth data listed in the KMS).
- c) Complete Basic Immunization

2) Control Group

- a) Toddlers aged 1-3 years who do not suffer from stunting
- b) Toddlers in the Wonorejo Health Center working area who were born with normal gestational age and weight (known from the birth data listed in the KMS)
- c) Complete Basic Immunization.

b. Exclusion Criteria

- 1) Toddlers aged 1-3 years who suffer from congenital diseases or congenital defects, autism
- 2) The location of the toddler's house is difficult to reach geographically.

The independent variable is exclusive breastfeeding, the dependent variable is stunting in toddlers aged 1-3 years. Exclusive breastfeeding was measured using an exclusive breastfeeding questionnaire and stunting was measured using anthropometric and microtoise observation sheets. In this study, data testing was carried out using the Chi Square statistical test. with a significance level of of 5% or 0,05.

RESULTS

Profile of Respondents

Table 1. Frequency and percentage of the profile of the respondents

Characteristics	Case Group		Control Grup	
	f	%	f	%
Age (Months)				
12-24 Months	18	78,3	12	52,2
25-36 Months	5	21,7	11	47,8
Gender				
Male	14	60,9	14	60,9
Female	9	39,1	9	39,1

Based on table 1 it is known that in the case group almost entirely aged 12-24 months as many as 18 toddlers (78,3%), as well as in the control group most of them aged 12-24

months as many as 12 toddlers (52,2%). Based on gender characteristics in both groups, most of them were male as many as 14 toddlers (60,9%).

Exclusive Breastfeeding Coverage

Tabel 2. Frequency Distribution of Exclusive Breastfeeding Coverage at Wonorejo Health Center Samarinda in 2021

Characteristics	f	%
Exclusive Breastfeeding History	25	54,3
No history of exclusive breastfeeding	21	45,7

Based on table 2 shows the scope of exclusive breastfeeding, namely as many as 25 toddlers (54,3%) have a history of exclusive breastfeeding and as many as 21 toddlers (45,7%) do not have a history of exclusive breastfeeding.

Stunting Prevalence

Table 3. Distribution of the Frequency of Stunting Prevalence at the Wonorejo Health Center Samarinda in 2021

Stunting category	f	%
Stunted	18	78,3
Severely Stunted	5	21,7

Based on table 3 shows that the stunting category is as many as 18 toddlers (78,3%) have stunted nutritional status, and 5 toddlers (21,7%) have very short nutritional status (severely stunted) based on the TB/U indicator.

Relationship of History of Exclusive Breastfeeding with Stunting Incidence in Toddlers Age 1-3 Years in the Wonorejo Community Health Center Working Area

Table 4. Analysis of the Relationship between History of Exclusive Breastfeeding and Stunting Incidence in Toddlers Age 1-3 Years at the Wonorejo Health Center, Samarinda in 2021

History ASI Exclusive	Stunting				Total		p-value	OR (95%CI)
	Yes		No		f	%		
No	f	%	f	%	f	%	0,000	24,000 (5,010 – 114,969)
Yes	18	78,3	3	13,0	21	45,7		
	5	21,7	20	87,0	25	54,3		

Table 4 shows that of the 23 toddlers who experienced stunting, there were 18 toddlers (78,3%) who did not have a history of exclusive breastfeeding and as many as 5 toddlers (21,7%) had a history of exclusive breastfeeding. Meanwhile, of the 23 toddlers who did not experience stunting, there were 3 toddlers (13,0%) who did not have a history of exclusive breastfeeding and as many as 20 toddlers (87,0%) had a history of exclusive breastfeeding.

The results of data analysis with the Chi Square test obtained p-value <0,05, i.e. 0,000, so it can be concluded that H_0 is rejected and H_a is accepted, which means that there is a relationship between a history of exclusive breastfeeding and the incidence of stunting in toddlers aged 1-3 years in the Wonorejo Health Care working area and obtained an odds ratio of 24 (CI=95%) which means that toddlers without a history of exclusive breastfeeding have a 24 times risk of suffering from stunting compared to toddlers who have a history of exclusive breastfeeding.

DISCUSSION

Profile of Respondents

The results of the study based on age showed that in the case group almost entirely aged 12-24 months as many as 18 toddlers (78.3%), as well as in the control group mostly aged 12-24 months as many as 12 toddlers (52.2%). The results of this study are in line with research conducted by Ni Luh Made Asri Dewi and Ni Nengah Handika Primadewi in Bali which showed that of the 212 respondents, 112 toddlers (53%) were aged between 12-24 months and 64 were stunted (57%), while as many as 100 toddlers (47%) aged 25-36 months and 52 toddlers (43%)⁸.

The period of accelerated growth and development starts from the formation of the fetus in the womb until the child is two years old. The age of 0-24 months is included in the golden period or a critical period where there is rapid growth and development. The golden period can be realized if toddlers get the appropriate nutritional intake for optimal growth and development. Growth and development to achieve optimal maturity is largely determined by nutrient intake in the golden period⁶. Problems in short children are known the sooner if there is a growth disorder, especially at the age of 0-24 months, the better, this is because the sooner appropriate therapy and treatment is given, the lower the risk of stunting, so that children can grow normally as adults.

Based on gender, it shows that most of them are male as many as 14 toddlers (60,9%) in each group. This result is in accordance with the results of the Riskesdas (2018) that the prevalence of stunting in male toddlers (12,1%) is higher than female toddlers (10,8%) for very short nutritional status as well as boys (19,6%) and women (18,9%) for short nutritional status³.

Growth occurs faster in girls and slower in boys. The body posture and body surface area of men are larger or wider than women causing men to require more nutrients than women⁹. Men have more muscle mass, while women have more fat mass than muscle mass so that men have greater energy needs than women¹⁰. Boys have a greater average body weight and high resting metabolic rates generally require a higher energy intake than girls.

Coverage of Exclusive Breastfeeding

Based on the results of the study, it showed that the coverage of exclusive breastfeeding was as many as 25 toddlers (54,3%) had a history of exclusive breastfeeding and as many as 21 toddlers (45,7%) did not have a history of exclusive breastfeeding. The results of this study are in line with Al Ma'idatul Latifah et al. (2020) in Buntu Malangka District, Makassar City the population was selected from 7 stunting priority villages, and 3 villages randomly stated that out of 114 toddlers as many as 77 toddlers (53,5%) had a history of giving Exclusive breastfeeding and as many as 67 toddlers (46,5%) did not have a history of exclusive breastfeeding¹¹.

Exclusive breastfeeding where the baby is only given breast milk without giving the baby any other food or drink, including water, other than breastfeeding, except for medicines and vitamin or mineral drops for 6 months, where expressed breast milk is allowed¹².

Although the results of the research conducted showed that toddlers who had a history of exclusive breastfeeding (54,3%) were higher than those who did not have a history of exclusive breastfeeding (45,7%), however, this figure had not reached the target of breastfeeding coverage. exclusive rights set by the government, which is 80%⁴.

The success of exclusive breastfeeding on average is due to the fact that within less than one hour after giving birth, the baby has been breastfed for the first time by the mother or the IMD is done. Giving breast milk for less than an hour can make milk production for the first day come out faster because prolactin hormone levels do not have time to fall in the mother's blood circulation

Stunting Prevalence

Based on the results of the study, it shows that the stunting category is as many as 18 toddlers (78.3%) have short nutritional status (stunted), and 5 toddlers (21.7%) have very short nutritional status (severely stunted) based on the TB/U indicator.

This is in line with research conducted by Widanti et al. (2019) in Surabaya which stated that of the 85 toddlers who participated in the study, the incidence of stunting in toddlers aged 12-59 months was mostly in the short category, namely 63 toddlers (74.1%) and as many as 22 toddlers (25.9%) in the very short category¹³.

Stunting is a condition of failure to thrive in children under five as a result of chronic malnutrition so that children are shorter for their age (malnutrition occurs since the baby is in the womb and in the early stages of life after birth, but only appears after the child is 2 years old). Children have short nutritional status if they have a Z-score based on TB/U less than -2 SD to -3 SD and very short nutritional status if they have a Z-score based on TB/U less than -3 SD¹⁴.

Relationship of History of Exclusive Breastfeeding with Stunting Incidence in Toddlers Age 1-3 Years in the Wonorejo Health Center Work Area

Based on the results of the study showed that the results of the Chi Square test obtained p value <0.05 , i.e. 0,000, so it can be concluded that H_0 is rejected and H_a is accepted, which means that there is a relationship between a history of exclusive breastfeeding and the incidence of stunting in toddlers aged 1-3 years in the Work Area Wonorejo Health Center. The odds ratio value is 24 (CI=95%) which means that toddlers who do not have a history of exclusive breastfeeding have a 24 times risk of suffering from stunting compared to toddlers who have a history of exclusive breastfeeding. Of the 23 toddlers who experienced stunting, there were 18 toddlers (78,3%) who did not have a history of exclusive breastfeeding and as many as 5 toddlers (21,7%) had a history of exclusive breastfeeding. Meanwhile, of the 23 toddlers who did not experience stunting, there were 3 toddlers (13,0%) who did not have a history of exclusive breastfeeding and as many as 20 toddlers (87,0%) had a history of exclusive breastfeeding.

This study is in line with Sri Handayani (2019) showing the results of the chi square test obtained p value = 0,000 (p value $<0,05$) which means that there is a relationship between exclusive breastfeeding and the incidence of stunting in toddlers aged 24-36 months in Watugajah Village, Gunungkidul Regency².

Inadequate nutritional intake in the long term or chronic, will inhibit the physical growth of children so that they become short (stunting)¹⁵. One of the important nutritional intakes in supporting the growth and development of toddlers is exclusive breastfeeding¹⁶. Breast milk is the main and most perfect food for babies. Where breast milk contains almost all nutrients with a composition according to the baby's needs to grow and develop optimally¹².

Although there is a significant relationship between exclusive breastfeeding and the incidence of stunting. There are still 5 children with exclusive breastfeeding but stunting and there are 3 children who do not receive exclusive breastfeeding but are not stunted, this shows that the practice of feeding is related to the incidence of stunting in toddlers aged 1-3 years where the practice of feeding is not good in children will provide opportunities for stunting¹⁷. A 2018 study in Myanmar showed that the main drivers of malnutrition in children aged 0-59 months varied, starting in the womb. Therefore, nutrition in mothers has an important role in reducing malnutrition in children. Mothers who have less nutrition tend to have stunting children with an estimated RR of 1.64 (CI=95%)¹⁸.

Judging from the odds ratio value of 24 (CI = 95%) which means that toddlers who do not have a history of exclusive breastfeeding have a 24 times risk of suffering from stunting compared to toddlers who have a history of exclusive breastfeeding. This is in line with research conducted by Malisa Ariani (2020) using the case control method on 84 samples, showing that exclusive breastfeeding is a factor associated with stunting. Based on the results

of statistical tests, an OR value of 4.659 was obtained, which means that toddlers who do not receive exclusive breastfeeding have a 4.659 times greater risk of suffering from stunting compared to toddlers who receive exclusive breastfeeding¹⁹.

According to the results of research observations, it is suspected that breast milk is a nutritional intake that is very in accordance with the needs of the child's body which will help the growth and development of children. Breast milk that is not given exclusively can make a child not get enough breast milk, which means having poor nutritional intake and can lead to malnutrition. One of them can cause stunting. The benefit of exclusive breastfeeding is that it supports the growth of children, especially height, because the calcium contained in breast milk is more efficiently absorbed than formula milk. The nutrients contained in breast milk are also suitable for the growth of the child so as to ensure that the child's needs are met, and the nutritional status of the child becomes normal in both height and weight.

CONCLUSION

There is a relationship between the history of exclusive breastfeeding and the incidence of stunting in toddlers aged 1-3 years in the Wonorejo Health Center Work Area with ($p\text{-value} = 0.000 < = 0.05$) and the value (Odds Ratio = 24) means that toddlers without a history of exclusive breastfeeding have a risk of 24,000 times to suffer from stunting compared to toddlers who have a history of exclusive breastfeeding.

This study suggests that the Primary Health Care further improve education to mothers regarding the importance of maternal nutrition before pregnancy and during pregnancy, exclusive breastfeeding, food/drinks that should not be given before the child is 6 months old and prevention of stunting and the dangers of stunting in toddlers which can cause developmental delays. physical and mental health is associated with an increased risk of illness and death. It is necessary to conduct further research on the provision of interventions to toddlers who experience stunting, for example the provision of zinc supplements and the relationship between maternal nutritional status during pregnancy and the incidence of stunting, as seen from the LILA measurement.

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