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Early Initiation and Exclusive Breastfeeding among Stunting and Normal Toddlers Aged 12-60 Months

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ABSTRACT

A growth issue in toddlers known as stunting is characterized by a smaller stature relative to age standards. Numerous variables, including non-exclusive breastfeeding and not implementing early initiation of breastfeeding, contribute to stunting. This study aimed to determine whether there was difference of early initiation and non early initiation of breastfeeding among stunting and normal toddlers and difference of exclusive and non exclusive breastfeeding among stunting and normal toddlers between the ages of 12 and 60 months at the Simomulyo Health Center in 2021. This study applied the cross-sectional approach in an analytical observational research design. A sample of 81 respondents was gathered via the sampling method of simple random sampling, and the data was analyzed using the Chi-Square test with a confidence interval (CI) value of 95%. The study's analysis revealed no significant difference between the early initiation breastfeeding and non early initiation of breastfeeding in stunting and non stunting group ($p = 0.331$), nor was there any significant difference found between the exclusive breastfeeding and non exclusive breastfeeding among stunting and non stunting group at Simomulyo Health Center in 2021 ($p = 0.460$). It might be stated that factors other than early initiation and exclusive breastfeeding impact stunting at the Simomulyo Community Health Center. Eventhough there were no difference in proportion of early initiation and exclusive breastfeeding among stunting and normal toddlers at the Simomulyo Health Center in 2021, the early initiation and exclusive breastfeeding are strongly encouraged.

Keywords: early initiation of breastfeeding; exclusive breastfeeding; stunting

INTRODUCTION

Stunting is one of the nutritional challenges around the world, especially in some developing countries. Indonesia has the third highest frequency of stunting in the South-East Asian Region, at 36.4%, followed by India (38.4%) and Timor Leste (50.2%). Basic Health Research (2018) reported that there is a prevalence of stunting in East Java Province as much as 35%.(1)

Stunting needs to be addressed immediately because stunting has a serious impact on the quality of human resources. Children with stunting usually have impaired growth, cognitive development and metabolic disorders. These conditions will then increase the incidence of pain and there is a decrease in learning capacity and work productivity. When stunted toddlers grow into adults and work, often stunting factors experienced since childhood make it difficult for them to get a job because of their limited abilities.(2-4)

Stunting is caused by many factors such as lack or non-implementation of early initiation of breastfeeding and non-exclusive breastfeeding. Non-implementation of early initiation of breastfeeding will result in non-fulfillment of nutrients that are important for infants early in life because the success of early initiation of breastfeeding determines success in exclusive breastfeeding.(5) Exclusive breastfeeding is very important because exclusive breastfeeding is the main source of nutritional needs in the first 6 months of life. If breastfeeding is less than optimal, it will be a major risk factor for stunting.

Based on data from the Surabaya City Health Office in 2019, there were 405 stunting cases that received treatment at the Simomulyo Health Center. If the factors causing stunting are not handled properly, the incidence of stunting will continue to increase. As a result, more study is required to evaluate the relationship between a history of early breastfeeding initiation and exclusive breastfeeding and the occurrence of stunting in children aged 12-60 months in the Simomulyo Health Center work area. Therefore, this research aims to determine whether there was difference of early initiation and non early initiation of breastfeeding among stunting and normal toddlers and difference of exclusive and non exclusive breastfeeding among stunting and normal toddlers between the ages of 12 and 60 months at the Simomulyo Health Center in 2021.

METHODS

This research was conducted in November and December 2021 at Simomulyo Community Health Center, Surabaya City, East Java Province, Indonesia. Cross-sectional observational analysis was employed in this investigation. Mothers of toddlers between the ages of 12 and 60 months who met the inclusion and exclusion criteria made up the study's sample. mothers who have toddlers between the ages of 12 and 60 months who permanently reside in the Simomulyo Health Center's work area as well as mothers whose toddlers were brought to the health center for weight and height assessments meet the inclusion criteria. Mothers whose children were not enrolled in the Simomulyo Health Center work area or whose toddlers had a history of chronic infections were excluded as respondents.

In this study, 81 respondents became samples, and simple random sampling was the method of sampling. Stunting was the dependent variable in this study, whereas the implementation of early breastfeeding initiation and exclusive breastfeeding are the independent factors. Primary data from questionnaires and height measurements were the source of information used in this investigation. After that, the data were examined using the Chi-Square Test, which had a 95% confidence interval (CI) value.

This research had received ethical approval from the Faculty of Medicine, Universitas Ciputra Surabaya with number 130/EC/KEPK-FKUC/IX/2021.

RESULTS

Based on table 1, it can be interpreted that from 81 respondents, the highest age group of respondents was obtained at the age of 31-35 years (32.1%). Most respondents had the last education in senior high school (64.2%).

Table 1. Distribution of maternal characteristics by age and last education

Characteristics	Frequency	Percentage
Age (years old)		
20-25	17	21
26-30	20	24.7
31-35	26	32.1
36-40	14	17.3
41-45	4	4.9
Last education degree		
Elementary	3	3.7
Junior high	8	9.9
Senior high	52	64.2
Higher education	18	22.2

Based on the data in table 2, it can be interpreted that the age group of toddlers was mostly at the age of 12-24 months and age 37-48 months (30.0%). Respondents were dominated by female gender compared to male, namely 51.9%. Most of the toddlers have implemented early breastfeeding initiation (71.6%) and exclusive breastfeeding (74.1%).

Table 3 indicated that among 58 toddler respondents who initiated early breastfeeding, there were 14 children (24.1%) who were stunted. Meanwhile, of the 23 toddlers who did not initiate early breastfeeding, 8 children (34.8%) suffered from stunting. Although there were descriptive differences, these differences were not significant ($p = 0.331$).

Table 4 revealed that among 21 children who did not receive exclusive breastfeeding, 7 children (33.3%) suffered from stunting. On the other hand, of the 60 children who received exclusive breastfeeding, there were 15 children (25%) who suffered from stunting. Chi-Square test findings showed a p-value of 0.460 ($p > 0.05$), indicating that there was no significant difference between the frequency of stunting in children between the ages of 12 and 60 months who had exclusively breastfeeding or not, at the Simomulyo Health Center in 2021.

Table 2. Distribution of toddler characteristics based on age, sex, stunting status, early breastfeeding initiation and exclusive breastfeeding

Characteristic	Frequency	Percentage
Age (months old)		
12-24	25	30.9
25-36	22	25.8
37-48	25	30.9
49 -60	9	12.4
Sex		
Male	39	48.1
Female	42	51.9
Stunting		
Yes	22	27.2
No	59	72.8
Early initiation of breastfeeding		
No	23	28.4
Yes	58	71.6
Exclusive breastfeeding		
No	21	25.9
Yes	60	74.1

Table 3. Early initiation of breastfeeding and the incidence of stunting in toddlers aged 12-60 months at Simomulyo Health Center in 2021

Early initiation of breastfeeding	Stunting incidence				p-value
	Yes		No		
	Frequency	Percentage	Frequency	Percentage	
No	8	34.8	15	65.2	0.331
Yes	14	24.1	44	75.9	

Table 4. Exclusive breastfeeding and the incidence of stunting in toddlers aged 12-60 months at Simomulyo Health Center in 2021

Exclusive breastfeeding	Stunting incidence				p-value
	Yes		No		
	Frequency	Percentage	Frequency	Percentage	
No	7	33.3	14	66.7	0.460
Yes	15	25.0	45	75.0	

DISCUSSION

The goal of this study was to examine difference of early initiation and non early initiation of breastfeeding among stunting and normal toddlers and difference of exclusive and non exclusive breastfeeding among stunting and normal toddlers between the ages of 12 and 60 months at the Simomulyo Health Center in 2021. According to the findings of the Chi-Square test, the significance value was 0.331. These findings suggest that the incidence of stunting in toddlers between the ages of 12 and 60 months at Simomulyo Health Center in 2021 is not significantly impacted by the history of early breastfeeding initiation. This is consistent with research by Nisa (2020) on stunting toddlers at the Kedungtuban Health Center who were between the ages of 24-59 months. The study found no significant correlation between the incidence of stunting in toddlers at the Kedungtuban Health Center and the implementation of early breastfeeding initiation.[6] This finding also consistent with research from Rusmil *et al*. that found the frequency of stunting is greater in non-exclusive breastfeeding group, but there is no difference in the proportion of stunting in children aged 6-9 months between those who are exclusively breastfed and those who are not.[7] There are many factors that can influence stunting. Factors that can cause stunting include maternal gestational age, history of low birth weight babies and genetic factors.[6] However, the government still launched the first 1000 days of life program to prevent stunting, one of which is by providing early breastfeeding initiation.[8]

In this study, mothers of toddlers aged 12-60 months in the Simomulyo Health Center working area have mostly implemented early breastfeeding initiation. This shows that mothers already understand the importance of

early initiation of breastfeeding as an early effort in the success of exclusive breastfeeding so that it is expected that babies can get adequate nutrition for growth and development. Although the implementation of early initiation of breastfeeding has been carried out by most respondents with stunted toddlers, stunting can still occur because the causes of stunting include many factors. Based on direct interviews with respondents who have stunted toddlers, there are genetic factors that can cause stunting. Short parents have genes on the chromosomes that carry short traits that are likely to pass on these short traits to their children.[9,10]

Based on the results, it was found that 7 respondents with stunted toddlers did not get exclusive breastfeeding (33,3%) while 14 respondents who had received exclusive breastfeeding were not stunted (66.7%). These results indicate that most respondents with stunted toddlers have received exclusive breastfeeding and from the results of the Chi- Square test obtained p-value of 0.460, which means that there is no significant difference between exclusive breastfeeding and non exclusive brestfeeding and the incidence of stunting in children aged 12-6 months at the Simomulyo Health Center in 2021. In previous studies, the same results were obtained where exclusive breastfeeding was protective against the incidence of stunting in children aged 6-23 months in Indonesia, but with insignificant results.[11,12] This can happen because stunting is caused by many factors apart from exclusive breastfeeding, some of that are maternal height, maternal nutritional status, maternal knowledge, maternal education, materinal occupation, parenting behavior, breastfeeding behavior, having many children, maternal history of smoking etc.[13]

In a study conducted by Paramashanti, et al (2016) showed that stunting in children from rich families tends to be lower than children from poor families.[11] Based on direct interviews with respondents who have stunted toddlers, economic factors play a role in causing stunting in toddlers at Simomulyo Health Center. Most respondents are housewives with husbands who work as day laborers, drivers and shop employees. The family income earned in 1 month is still insufficient to meet daily needs. This is because their income is still far below the regional minimum wage. Low family economic status will affect the quality and quantity of food consumed by the family. These limitations will increase the risk of toddlers to experience stunting.[14] This is somewhat different from a study conducted in Karubaga, Tolikara District, which found that there was no correlation between maternal income or employment and the incidence of stunting in infants, but that the variable of maternal age was more associated with stunting.[15]

Regardless of the history of early breastfeeding initiation and exclusive breastfeeding, prevention or treatment of stunting conditions in children can be done in various ways. Increasing maternal knowledge is one strategy so that mothers can provide food intake that supports child growth. This is consistent with the activities carried out at Made Health Center, where stunting prevention education using the lecture technique is highly helpful in improving mothers' awareness, and providing extra food containing animal protein can assist improve children's height.[16] Maternal health during pregnancy also needs to be considered so that the baby born will be a healthy baby with optimal growth. A study found that dietary treatments in the form of micronutrient supplementation for pregnant women with chronic energy insufficiency had newborn outcomes that were not substantially different from those of normal pregnant women.[17] Apart from maternal interventions, socialization activities to stakeholders must also be conducted to enable a holistic approach to the problem's treatment. As part of an acceleration to eradicate stunting, a research conducted in the Mojokerto area revealed that education had a good impact on stakeholders' understanding of stunting.[18]

The limitation of this research is that it focuses on two independent variables, namely exclusive breastfeeding and early initiation of breastfeeding and does not explore other factors that play a role in stunting. There are many external factors that contribute to stunting such as the dominant factor that caused stunting in this study such as children's age of 24−35 months (OR = 2.08, 95% CI: 1.12−3.86), mothers with low education (OR = 1.57, 95% CI: 1.18−2.08), and children living in rural areas (OR = 1.39, 95% CI: 1.01−1.91) (19), low birth weight are 2.0 times at higher risk of stunting than normal-born.[20]

CONCLUSION

It is concluded that there is no significant difference between the early breastfeeding initiation and non early breastfeeding initiation among stunting and non stunting group, and there is no significant difference between exclusive breastfeeding and non exclusive breastfeeding among stunting and non stunting group in the Simomulyo Health Center in 2021. This demonstrates that factors other than exclusive breastfeeding and early breastfeeding initiation are responsible for the stunting in the Simomulyo Health Center operating area in 2021. In order to identify treatments and preventative measures connected to stunting cases in the Simomulyo Health Center area, investigations into causes causing stunting other than exclusive breastfeeding and early commencement of breastfeeding might be conducted.

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