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Analysis of Stunting Incidents in Toddlers during the Covid-19 Pandemic at Community Health Centers Located in Banjarbaru, Indonesia

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ABSTRACT: Based on data from the Banjarbaru City electronic Nutrition Reporting Recording application, the highest cases of stunting toddlers at the Landasan Ulin Community Health Center were 131 people (19.8%) while children aged 0-23 months who were stunted were 72 people (19.7%) which still did not reach the national target of 14%. The purpose of this study was to analyze the risk factors associated with stunting incidence in terms of age, sex, Early Breastfeeding Initiation and exclusive breastfeeding. This research at the Landasan Ulin Community Health Center in Banjarbaru City used a cross sectional design. The population of this study was children aged 0-23 months. Determination of samples using systematic random sampling with a total of 165 children. Data were analyzed using Chi-Square and multivariate assays using multiple logistic regression tests. Based on the results of the analysis, children aged 0-23 months exposed to stunting amounted to 19.4%. The results of the Chi-Square test showed three variables that had a significant relationship with the incidence of child stunting, Early Breastfeeding Initiation and exclusive breastfeeding. The results of multiple logistic regression tests show that the most dominant factor related to the incidence of stunting in children aged 0-23 months is Early Breastfeeding Initiation. It is expected that there will be a regular increase in health promotion to breastfeeding mothers, direct visits to homes and socialization of the early initiation of breastfeeding procedures to relevant officers and the community.

KEYWORDS: Children 0-23 months, Exclusive breastfeeding, Risk factor, Stunting.

INTRODUCTION

South Kalimantan Province has a higher stunting prevalence rate compared to the national prevalence based on data from Riskesdas 2007, Riskesdas 2013 and Riskesdas 2018. Riskesdas 2007 data states that the prevalence of stunting children in South Kalimantan Province was 41.8%, then rose to 45% (2013) and decreased to 33.1% (2018), but still above the national figure nasional [1]–[3]. Based on the results of Riskesdas, Banjarbaru City has the highest prevalence of stunting toddlers in South Kalimantan reaching 39.73% while the prevalence of stunting in children aged 0-23 reaches 31.46% [3]. In 2019, based on data from the Banjarbaru City electronic Nutrition Reporting Recording application, the highest cases of stunting toddlers at the Landasan Ulin Community Health Center were 131 people (19.8%) while children aged 0-23 months who were stunted were 72 people (19.7%) which still did not reach the national target of 14%.

Stunting (short) is a nutritional status based on the index of body length according to age (PB / U) or height according to age (TB / U). Height according to age (TB / U) is an indicator to determine a child is stunted or normal. The categories and thresholds of height indicators according to age (TB / U) according to the Z-Score standard value that are often used are WHO anthropometric standards 2005 [4]. Studies show that stunting children are strongly associated with poor learning achievement, low levels of education and income [5]. Research in Central Jakarta shows that the incidence of stunting is associated with low levels of children's learning achievement in school [6].

Research using Riskesdas 2013 data on the relationship between nutritional status and hypertension concluded that hypertension is easier for those who are classified as fat-short compared to those who are thin-short and normal-normal [7]. Another study shows that stunted children in Indonesia have a 2.54 times risk of becoming obese compared to children of normal height [8]. It reinforces the importance of the role of health workers such as nurses during emergencies and is based on cybernetic theories of stress, coping and well-being, to engagement through fundamental action [9].

Malnutrition of a child at 1,000 HPK has three risks, including; a) risk of chronic diseases/Non-Communicable Diseases (NCDs). When affected kidney organs, the subject will suffer from hypertension and kidney disorders. If the pancreas is affected, this will be at risk of type-2 diabetes. If the affected heart organ will be at risk of suffering from heart disease; b) when the affected

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brain will experience impaired cognitive growth so that the subject becomes less intelligent and less competitive; and c) height growth so that the risk of stunting [10].

RESEARCH METHODS

The study was conducted at the Landasan Ulin Community Health Center in Banjarbaru City with a cross sectional design. The population is children under two years old. Determination of samples using systematic random sampling with a total of 165 children. Data were analyzed using Chi-Square test and multiple logistic regression test.

RESEARCH RESULTS AND DISCUSSION

1. Univariate Analysis

Table 1. Univariate Analysis of Research Variables

Variable	n	%
Incidence of *stunting*		
Stunting	32	19.4
Usual	133	80.6
Children's age group		
0-11 months	72	43.6
12-23 months	93	56.4
Sex		
Male	81	49.1
Female	84	50.9
The early initiation of breastfeeding		
Not doing and < 1 hour	137	83.0
Doing ≥ 1 hour	28	17.0
Exclusive breastfeeding		
No	57	34.5
Yes	108	65.5

The results of this study showed that the prevalence of stunting in Landasan Ulin Community Health Center was 19.4%. This illustrates that in the Community Health Center almost one-fifth of two-year-old babies are stunted. Based on the results of the study, it can be seen that the incidence of stunting in the Landasan Ulin Community Health Center is a public health problem with a moderate category because of its prevalence of < 20%. The prevalence of stunting in Landasan Ulin Community Health Center in this study is also lower when compared to a study in 2014, which concluded that the prevalence of stunting in children aged 6-23 months in Banjarbaru reached 50.98%. The high incidence of stunting in two-year-old babies at the Landasan Ulin Community Health Center needs to be addressed immediately and received attention and because of the prevalence of stunting in the medium category.

2. Bivariate Analysis

Table 2. The Relationship between Child Characteristics and Parenting with the Incidence of Stunting

Variable	Incidence of *stunting*						*p value*	OR	95% CI
	Stunting		Usual		Total				
	n	%	n	%	n	%			
Children's age group									
12-23 months	24	25.8	69	74.2	93	100	0.030*	2.783	1.166-6.638
0-11 months	8	11.1	64	88.9	72	100			

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Sex									
Male	18	22.2	63	77.8	81	100	0.481	1.429	0.657-3.107
Female	14	16.7	70	83.3	84	100			
The early initiation of breastfeeding									
Not doing and < 1 hour	31	22.6	106	77.4	137	100	0.039*	7.896	1.031-60.464
Doing ≥ 1 hour	1	3.6	27	96.4	28	100			
Exclusive breastfeeding									
No	15	26.3	42	73.7	57	100	0.154	1.912	0.872-4.190
Yes	17	15.7	91	84.3	108	100			

Statistical analysis shows that there is a relationship between the age of children and the incidence of stunting ($p < 0.05$) with an OR (Odds Ratio) value of 2.783 which means that children at risk (12-23 months) have a 2,783 times chance of experiencing stunting compared to children aged not at risk (0-11 months). This is because the higher the age of the child, the more the need for nutrients needed for burning energy in the body will increase.

The results of statistical analysis did not show a significant relationship between sex and the incidence of stunting ($p > 0.05$). This is because in the period of growth and development, basically boys and girls aged 0-23 months have relatively equal growth in terms of body length. Two-year-old babies experience physical growth and development. Children who get adequate and healthy nutritional intake, the development of brain cells will be as optimal as the development of the body. The physical growth and development of two-year-old babies are not differentiated by sex [11].

Statistical analysis shows that there is a relationship between the early initiation of breastfeeding and the incidence of stunting ($p < 0.05$). Research conducted at the Moyudan Health Center, Sleman shows that the practice of the early initiation of breastfeeding is a risk factor for stunting. Children who are not enforced by the early initiation of breastfeeding practices are at 8.10 times the risk of becoming stunted compared to those who are enforced by the early initiation of breastfeeding practices. the early initiation of breastfeeding is a factor that can prevent stunting in toddlers [12].

Statistical analysis showed that there was no significant relationship between exclusive breastfeeding and the incidence of stunting ($p > 0.05$). This is because most mothers (65.5%) exclusively breastfeed and 34.5% do not exclusively breastfeed. Complementary feeding that is not appropriate and not in accordance with the nutritional needs of children can cause children to be malnourished. Exclusive breastfeeding is not associated with stunting due to improper complementary feeding and insufficient fulfillment of children's nutritional needs when children are > 6 months old, causing children to experience malnutrition. Children's nutritional needs that are always not enough may affect children's nutritional status [13].

3. Multivariate Analysis

The results of statistical tests show that the the early initiation of breastfeeding variable is the most dominant factor associated with the incidence of stunting in children aged 0-23 months (Table 3).

Table 3. Multiple Logistic Regression Analysis

No	Variable	p value	OR	CI 95%
1	Children's age group	0.007	3.408	1.406-8.265
2	The early initiation of breastfeeding	0.025	10.443	1.342-81.245

The results of this study are in line with research at Puskemas Moyudan, Sleman which showed the practice of the early initiation of breastfeeding is a risk factor for stunting, research conducted on 50 stunted and non-stunted children concluded that giving the early initiation of breastfeeding at birth is associated with the incidence of stunting in toddlers 0-24 months. Children who are not enforced by the early initiation of breastfeeding practices are at 8.10 times the risk of becoming stunted compared to those who are enforced by the early initiation of breastfeeding practices. The early initiation of breastfeeding is a factor that can prevent stunting in toddlers [12]. Children who do not get the early initiation of breastfeeding have a 2.63 times higher probability of stunting [14]. In line with research in Yogyakarta City which states that there is a significant relationship between the early initiation of breastfeeding and the incidence of stunting in children aged 6-24 months [15].

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CONCLUSION

There is a relationship between the characteristics of two-year-old babies (age) and the incidence of stunting in two-year-old babies at the Landasan Ulin Community Health Center in Banjarbaru City and there is no relationship between the characteristics of two-year-old babies (gender) and the incidence of stunting in two-year-old babies at the Landasan Ulin Community Health Center in Banjarbaru City. There is a relationship between parenting style (the early initiation of breastfeeding) and the incidence of stunting in two-year-old babies at the Landasan Ulin Community Health Center in Banjarbaru City and there is no relationship between parenting (exclusive breastfeeding) and the incidence of stunting in children aged 0-23 months at the Landasan Ulin Community Health Center in Banjarbaru City.

The early initiation of breastfeeding is the dominant factor associated with the incidence of stunting in two-year-old babies at the Landasan Ulin Community Health Center in Banjarbaru City. It is expected that there will be an increase in health promotion periodically to breastfeeding mothers, making direct visits to homes so that maximum monitoring and socialization of the early initiation of breastfeeding procedures to relevant officers and the community is needed.

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