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Relationship between exclusive breastfeeding and stunting among children aged 2-5 years in Indonesia

Relación entre la lactancia materna exclusiva y el retraso del crecimiento entre los niños de 2 a 5 años en Indonesia

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SUMMARY

Introduction: *Stunting is a national and global problem that needs attention. Stunting can cause growth and development problems in children. Nutrition is an aspect that is closely related to the incidence of stunting in children. This study aimed to determine the relationship between exclusive breastfeeding and the incidence of stunting in children aged 2-5 years.*
Methods: *This research uses a correlational analytic research method with a cross-sectional design approach. The sampling technique used is simple random sampling with the sample criteria in this study were all mothers with children aged 2-5 years, as many as 109 respondents. Measuring tools for the questionnaire sheet and the Z-Score value. Research analysis using Chi-Square test, (p-value = 0.0001 α = 0.05), p-value < α.*
Results: *Most children were not given exclusive breastfeeding 63 % and 65.9 % of respondents experienced stunting. Exclusive breastfeeding can affect the incidence of stunting. The importance of exclusive breastfeeding in the first six months of a child's age plays a critical role in the 1 000 days of a child's birth and beyond.*
Conclusion: *Stunting children in the future are at risk of having difficulty achieving optimal physical and cognitive development. Breast milk nutrients at each stage of lactation (colostrum, transitional and mature milk) reduce the factors that cause stunting, namely infant morbidity and lack of nutritional intake in infants.*

Keywords: *Exclusive breastfeeding, stunting, children.*

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RESUMEN

Introducción: *La desnutrición crónica es un problema nacional y mundial que requiere atención. El retraso en el crecimiento puede causar problemas de crecimiento y desarrollo en los niños. La nutrición es un aspecto que está íntimamente relacionado con la incidencia de la desnutrición crónica en los niños. Este estudio tuvo como objetivo determinar la relación entre la lactancia materna exclusiva y la incidencia de desnutrición crónica en niños de 2 a 5 años.*
Métodos: *Esta investigación utilizó un método de investigación analítico correlacional con un enfoque de diseño transversal. La técnica de muestreo utilizada es el muestreo aleatorio simple con el criterio de muestreo*

en este estudio son todas las madres con niños de 2 a 5 años, hasta 109 encuestados. Las herramientas de medición fueron la hoja del cuestionario y el valor Z-Score. El análisis de la investigación se realizó mediante la prueba de Chi-cuadrado, (p-valor = 0,0001 α *= 0,05), p-valor <* α.

Resultados: *La mayoría de los niños que no recibieron lactancia materna exclusiva 63 % y el 65,9 % de los encuestados experimentó retraso en el crecimiento. La lactancia materna exclusiva puede afectar la incidencia del retraso del crecimiento. La importancia de la lactancia materna exclusiva en los primeros seis meses de edad de un niño juega un papel fundamental en los 1 000 días del nacimiento de un niño y más allá.*

Conclusión: *Los niños con retraso del crecimiento en el futuro corren el riesgo de tener dificultades para lograr un desarrollo físico y cognitivo óptimo. Los nutrientes de la leche materna en cada etapa de la lactancia (calostro, leche de transición y madura) reducen los factores que causan el retraso del crecimiento, a saber, la morbilidad infantil y la falta de ingesta nutricional en los lactantes.*

Palabras clave: *Lactancia materna exclusiva, retraso del crecimiento, niños.*

INTRODUCTION

Nutrition is one of the factors that determine the level of human health and well-being (1). Good nutrition is determined by a balance and harmony between a person's physical and mental development. Nutritional conditions can be in the form of undernutrition, good or normal, or overnutrition (2). Stunting is a condition of below-standard height at a certain age that increases a person's risk of developing non-communicable diseases such as diabetes, hypertension, obesity, and stroke at an early age (3). Stunting that occurs in childhood is a risk factor for increased mortality, low cognitive abilities and motor development, and unbalanced body functions. Stunting is caused by two factors, namely direct and indirect, one of the direct causes of stunting is not given exclusive breastfeeding (4).

The incidence of stunting is one of the nutritional problems experienced by children in the world today. The average prevalence of stunting under five in Indonesia from 2005-2017 was 36.4 % (5). Based on the 2018 Basic Health Research (6), the stunting rate in Indonesia reached 30.8 %. East Java Province is one of the priority areas for handling stunting problems, as seen from Bappenas 2018-2019 data. The data from the East Java Health Office in 2019 showed the prevalence of stunting at 36.81 %. Data from the Tuban District Health Office in 2020 showed a stunting rate of 12.77 %. This figure has not met the target set by the Tuban Regency Government, namely zero stunting. However, data from all Puskesmas in Tuban Regency that have been obtained, namely the Puskesmas in the working area of the Montong District, obtained achievement in overcoming stunting in 2020 as much as 7.1 % while the target to be achieved is 24 % (6).

Data on the coverage of babies who received exclusive breastfeeding at the Montong District Health Center in 2020 only reached 78 %, whereas, in 2019, the coverage of exclusive breastfeeding reached 83.6 %. In 2020 the number of children weighed as much as 39 100 children and reached 50.1 % of the total 77 975 children. When compared to 2019, this achievement decreased to 50 %. From a total of 39 100 children aged 0-59 who were weighed, there were 6 196 malnutrition children (9.4 %), short children as 8 232 (12.5 %) and underweight children as 5 416 (8.3 %) (7).

The direct causes of stunting are exclusive breastfeeding, infectious diseases, food intake, and birth weight. Furthermore, the indirect factors are parental education, occupation, and family economic status (8,9). Regulation of the Republic of Indonesia Number 33 of 2012 regarding Exclusive Breastfeeding is the provision of breast milk without adding or replacing it with other food or drinks given to babies from birth for six months (10). Exclusive breastfeeding provides various benefits for mothers and babies because breast milk is a natural food for babies, practical, economic, easy to digest, has an ideal composition of nutrients according to the needs and digestive abilities of babies, and breast milk supports the growth of babies, especially height, since the calcium in breast milk more efficiently absorbed than its substitutes (11).

The impact of stunting can be divided into two short-term and long-term effects. The short-term impact is an increase in the incidence of morbidity and mortality, suboptimal cognitive, motor, and verbal development in children, and health costs. The long-term impact is a non-optimal body

posture as an adult (shorter than in general), increasing the risk of obesity and other diseases. Besides that, it declined reproductive health, learning capacity, less than optimal performance during school years, and productivity and work capacity that is not optimal (12).

The government has prepared two programs to tackle stunting: specific and sensitive programs. Particular health programs, for example, exclusive breastfeeding for children, are related to health (13). This study aims to determine the relationship between exclusive breastfeeding and the incidence of stunting in children aged 2-5 years.

METHODS

This type of research was a design study and a correlational analysis using a cross-sectional time approach. The dependent variable was exclusive breastfeeding with categories non-exclusive breastfeeding and exclusive breastfeeding. The independent variable was the incidence of stunting in children aged 2-5 years with criteria for stunting and not stunting. This study's population was all mothers with children aged 2-5 years in Montong District, Tuban Regency, Indonesia, with 150 respondents from 7 villages that match the inclusion and exclusion criteria, namely mothers who have children aged 2-5 years, children aged 2-5 years, children who do not have diseases that affect growth and development. The sample size was 109. The sampling technique used was simple random sampling. The research instrument used a questionnaire on exclusive breastfeeding and stunting using a microtome measuring instrument and an Maternal and Child Health (MCH) Handbook. Data were analyzed using Chi-Square. This research has been ethically cleared by the Health Research Ethics Nahdlatul Ulama Institute of Health Sciences Tuban with the number 0251/LEPK.IIKNU/VIII/2022.

RESULTS

Table 1 show that almost half of 44 (40.7 %) respondents were aged between 5 years, and half of 55 (50.5 %) were female. Based on breast milk production, it can be concluded that most of the 69 (63 %) respondents were not given exclusive breastfeeding. Regarding stunting incidents, it can be concluded that 72 (65.9 %) respondents experienced stunting.

Table 1

Distribution of Respondents by Age, Sex, Breast Milk Production, and Stunting Incidence in Montong District, Tuban Regency

Characteristic	Frequency	Percentage (%)
Age		
2-3 years old	22	19.7
4 years old	43	39.6
5 years old	44	40.7
Sex		
Male	54	49.5
Female	55	50.5
Breast Milk Production		
Exclusive Breastfeeding	40	37
Non-exclusive breastfeeding	69	63
Stunting Incidence		
Stunting	72	65.9
Normal	37	34.1
Total	109	100

Source: Researcher Primary Data, 2021

According to Table 2, 57 (52.7 %) respondents were not given exclusive breastfeeding and experienced stunting. Data analysis using the Chi-Square test obtained a p-value = 0.0001, indicating a significant relationship between exclusive breastfeeding and the incidence of stunting in children aged 2-5 years Montong District, Tuban Regency.

Table 2

Relationship between Exclusive Breastfeeding and Stunting Incidence in Children aged 2-5 Years in Montong District, Tuban Regency

		Stunting Incidence					
		Stunting		Normal		Total	
		n	%	n	%	n	%
Providing Exclusive Breastfeeding	Exclusive Breastfeeding	15	13.2	26	24.2	41	100
	Non-exclusive breastfeeding	57	52.7	11	9.9	68	100
Total		72	65.9	37	34.1	109	100
p value = 0.0001 α = 0,05							

Source: Researcher Primary Data, 2021

DISCUSSION

Based on the results, 63 % of children aged 2-5 years were not exclusively breastfed. This is very far from the exclusive breastfeeding coverage target set by the government. Socio-cultural factors, lack of awareness of the importance of breastfeeding, health services, and health workers have not fully supported the Program for Increasing the use of breast milk. The incessant promotion of formula milk, lack of self-confidence, and lack of knowledge of mothers about the benefits of breastfeeding for themselves and their children become the leading cause of the significant prevalence of infants who are not exclusively breastfed (14). Therefore, health workers are important in educating mothers during the antenatal care (ANC) period, during the postpartum period, and when mothers weigh their children at the Integrated Healthcare Post about breast care and the benefits of breastfeeding (5,15).

Breastfeeding is also associated with the growth of the child's body length. The duration of breastfeeding was positively associated with growth length. The longer the children were breastfed, the faster they grew in the second and third years of life. Children who were not exclusively breastfed were at risk of stunting two times greater than children who were exclusively breastfed (16). Breastfeeding is an important factor in the growth, development, and also healthy of children. Global strategy on infant and young child feeding in 2002 recommended the 4 (four) best eating patterns for children up to the age of 2 years, namely Early Initiation of Breastfeeding in the first 30 to 60 minutes after birth, exclusive breastfeeding until the baby is born. At age 6 months, start giving complementary foods from 6 months and continue breastfeeding until the child is two years old (9,17).

The interpretation of Table 1 data shows that most of the respondents experienced stunting. Stunting is a chronic nutritional problem caused by many factors such as socioeconomic conditions, maternal nutrition during pregnancy, infant morbidity, and lack of nutritional intake. Stunting future children will have difficulty achieving optimal physical and cognitive development and age (10). Stunting is caused by multidimensional factors, including poor nutrition care practices and the lack of maternal knowledge about health and nutrition before and during pregnancy and after the mother gives birth. Stunting is also caused by two factors, directly and indirectly. Direct causes include breastfeeding, exclusivity, infectious diseases, food intake, and birth weight, while indirect factors are parents' education, occupations, and economic status (8). Age is one of the factors that influence the incidence of stunting. The increasing age of children

worsens the risk of stunting (18). The previous result showed a relationship between age and the incidence of stunting in which the incidence of stunting is mostly experienced by children aged 12-24 months or children, which is 67.27 % (19). This is related to the study results, which showed that almost half of the respondents (40.7 %) were five years old. This was due to the risk factors for stunting, namely poor nutritional intake, low birth weight of children, maternal height, and family economic status. Factors that influence the incidence of stunting in Montong District are caused by non-exclusive breastfeeding based on the answers to the questionnaire given by the mother (18).

The analysis of the results show a relationship between exclusive breastfeeding and stunting incidence in children aged 2-5 years. The factors for the incidence of stunting are low family income, suffering from diarrhea, suffering from ARI, low energy adequacy level, low protein adequacy level, parental height, low birth weight, not exclusively breastfed, complementary feeding given too early, and poor parenting less (20). Children who are not exclusively breastfed have a higher risk factor for stunting. Risk factors for stunting include poor nutritional intake, low birth weight of children, maternal height, and family economic status. Low parental education levels are also associated with stunting in children. The description of this study's results supports research in which the result stated that there is a significant relationship between exclusive breastfeeding and the incidence of stunting in children (21). Most children aged 2-5 years in Montong District were not given exclusive breastfeeding and experienced stunting, meaning that the researchers concluded that exclusive breastfeeding could affect the incidence of stunting. Maximizing breastfeeding for up to 6 months, not releasing breast milk too quickly, and giving complementary feeding that is not too early can prevent stunting (22).

CONCLUSION

Most children aged 2-5 years did not receive exclusive breastfeeding and experienced stunting. There is a relationship between exclusive breastfeeding and the incidence of stunting in children aged 2-5 years. Exclusive breastfeeding should be an essential concern for parents by providing mutual support between father and mother. The role of maternity nurses during ANC and INC is important for mothers, especially mothers in the early initiation of breastfeeding.

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