

THE RELATIONSHIP BETWEEN EXCLUSIVE BREASTFEEDING PRACTICE AND THE PHENOMENON OF WASTING (MALNUTRITION) AND STUNTING IN LERAN VILLAGE, BOJONEGORO, INDONESIA

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Abstract---Exclusive breast milk is very important for children's growth and development. So, the effects that can occur if the mothers do not breastfeed the children with exclusive breast milk are wasting and stunting. This study aimed to know the relationship between the phenomenon of wasting and stunting and exclusive breastfeeding practice in Leran village. The research method used was an observational study with a cross-sectional approach. The total sample of 63 children under five was taken using simple random sampling. The data related to exclusive breastfeeding practice were collected using questionnaires, while the data of stunting and wasting in children under five were collected from the anthropometric measurements. The result of this study was 9.5% of children under five were wasted, 39.7% of children under five were stunted, and 96.8% of children under five were breastfed with exclusive breast milk. This study concludes that there is no relationship between exclusive breastfeeding practice and stunting. Meanwhile, there is a relationship between exclusive breastfeeding practice and wasting.

Keywords--- Exclusive Breast Milk, Wasting (malnutrition), Stunting.

I. INTRODUCTION

The problem of nutritional status in Indonesia, especially in children under five, includes malnutrition problems, severe malnutrition, and stunting. The definition of stunting or commonly known as children under five with low height is the indication for inadequate nutritional status in children used as the long-term indicator for malnutrition [18]. The phenomenon of stunting (children with low height) in children under five is frequently not realized by family. It is commonly realized after the first two years in the children's life. It can be proven by several indicators such as impaired cognitive function, delayed motor development, and lower IQ [13].

WHO had recorded in 2010 that it was estimated around 167 million children in developing countries were stunted. Globally, the stunting rate started to decrease from 39.7% in 1990 to 26.7% in 2010. Meanwhile, in Africa, the stunting rate started to decrease slowly, namely around 40%. In Asia, the stunting rate showed a drastic decrease starting from 49% in 1990 to 28% in 2010. Even though there was a decrease in the stunting rate in developing countries, the problem related to stunting still becomes the critical public health concern in most countries [11].

Based on the result of Basic Health Research, the prevalence of stunting in children under five increased by 35.6% in 2010. Meanwhile, in 2013, the prevalence increased nationally by 37.2%. The increased rate consisted of children under five with extremely low height and low height [9]. Many factors affect the children's body to be stunted. Those factors are divided into two categories, namely direct factors and indirect factors. The direct factors are sex, LBW (Low Birth Weight), low energy and protein intake, infectious disease, URI (Upper Respiratory Tract Infection), and diarrhea. Meanwhile, the indirect factors affecting the children's body to be stunted are no exclusive breastfeeding practice, incomplete step in immunization, and family characteristics, such as economic status, occupation, and parents' educational background [12].

The indirect factor that affects stunting is no exclusive breastfeeding practice. Exclusive breast milk is one of the factors affecting children's growth and development. The World Health Organization (WHO) recommends breastfeeding the children with exclusive breast milk until the children reach the age of six months without any weaning food, in the form of both liquid and solid food. The content in the exclusive breast milk is useful for the process of forming the membranes of the brain nervous that is aimed at accelerating the nervous system performance. The mothers who only breastfeed their children with exclusive breast milk without giving any formula milk may result in making the children's body to be healthier and it can prevent them from obesity [10].

In Indonesia, malnutrition still becomes a problem. The nutrition-related problem that occurred in this country is energy and protein deficiency. The problem of energy and protein deficiency is one of four nutrition-related problems that are frequently found in children under five [2]. Generally, malnutrition in children is divided into three types, namely wasting, stunting, and underweight. The categorization of nutritional status in children under five for energy and protein deficiency is based on the three measurements for nutritional status, namely underweight (weight-for-age), wasting or thinness (weight-for-height), and stunting or low height (height-for-age) [7]. Wasting in children can lead to health problems, such as disorders of the immune system that causes low immunity and susceptible to infectious diseases [15].

Based on the secondary data collected from Pungpungan Public Health Center, there were 29 children with health problems and 12 of them had low height (stunting), while the remaining or 17 children were malnourished (wasting). The aim and the reason of the writer to use "The Relationship between the Phenomenon of Wasting (malnutrition) and Stunting and Exclusive Breastfeeding Practice in Leran Village, Bojonegoro" was to know whether there is a relationship between the phenomenon of wasting (malnutrition) and stunting and exclusive breastfeeding practice in Leran village.

II. LITERATURE REVIEW

Stunting or commonly known as children under five with low height is the indication of malnutrition in children that is used as the long-term indicator for malnutrition. The phenomenon of stunting (children with low height) in children

under five is frequently not realized by family. It is commonly realized after the first two years of the children's life. It can be proven by several indicators such as impaired cognitive function, delayed motor development, and lower IQ.

Many factors affect stunting. Those factors are divided into two categories, namely direct factors and indirect factors. The direct factors are sex, LBW (Low Birth Weight), low energy and protein intake, infectious disease, URI (Upper Respiratory Tract Infection), and diarrhea. Meanwhile, the indirect factors affecting the children's body to be stunted are no exclusive breastfeeding practice, incomplete step in immunization, and family characteristics, such as economic status, occupation, and parents' educational background. The indirect factor that affects stunting is no exclusive breastfeeding practice. Exclusive breast milk is one of the factors affecting children's growth and development. The World Health Organization (WHO) recommends breastfeeding the children with exclusive breast milk until the children reach the age of six months without any weaning food, in the form of both liquid and solid food. The content in exclusive breast milk is useful for the process of forming the brain nervous membranes aimed at accelerating the nervous system performance. The mothers who only breastfeed their children with exclusive breast milk without giving any formula milk may result in making the children's body to be healthier and it can prevent them from obesity.

Breastfeeding children with exclusive breast milk is strongly connected with the phenomenon of stunting. The statement is certainly supported by some studies revealing that there is a significant relationship between exclusive breastfeeding practice and the phenomenon of stunting. Exclusive breastfeeding practice certainly can increase the children's survival and it can decrease stunting, while the children that are not breastfed with exclusive breast milk have a 25 times higher risk for experiencing stunting than the children that are breastfed with exclusive breast milk.

Malnutrition still becomes a problem. The nutrition-related problem that occurred in this country is energy and protein deficiency. The problem of energy and protein deficiency is one of four nutrition-related problems that are frequently found in children under five. Generally, malnutrition in children is divided into three types, namely wasting, stunting, and underweight. The categorization of nutritional status in children under five for energy and protein deficiency is based on the three measurements for nutritional status, namely underweight (weight-for-age), wasting or thinness (weight-for-height), and stunting or low height (height-for-age). Wasting in children can lead to health problems, such as disorders of the immune system that causes low immunity and susceptible to infectious diseases.

III. DATA COLLECTION

The method used in this study was a quantitative analytic with a cross-sectional design. The population in this study was all mothers who had children under five in Leran village with 170 children under five in total. Sampling was done using probability sampling with a technique known as simple random sampling. The total sample was 63 respondents. Furthermore, the data were analyzed using SPSS through Pearson's correlation. There were two analyses used in this study, namely univariate analysis and bivariate analysis. Univariate analysis was used to know the frequency distribution and the proportion of the variables that would be presented. Meanwhile, bivariate analysis was used to know the relationship between the independent variable and the dependent variable. Both univariate analysis and bivariate analysis were statistically tested using a Chi-square test with a degree of accuracy of 0.05 ($\alpha=0.05$). The independent variable in this study was stunting (children with low height) and wasting (malnutrition), while the dependent variable was exclusive breast milk.

IV. DATA ANALYSIS

The analysis used in this study was univariate analysis and bivariate analysis. The univariate analysis was used to know the frequency distribution of malnutrition (wasting), stunting, and exclusive breast milk. The univariate analysis for the category of wasting in Table 1 was classified into wasted children under five and non-wasted children under five. From Table 1, it is found that 6 children (9.5%) are wasted (malnourished). Meanwhile, 57 children (90.5%) are not wasted (malnourished). The category of stunting in Table 2 was classified into stunted children under five and non-stunted children under five. Therefore, in Table 2, it has been collected 25 children (39.7%) are stunted, while 38 children (60.3%) are not stunted. The category of exclusive breastfeeding practice in Table 3 was classified into breastfed children under five and non-breastfed children under five. Based on Table 3, it can be seen that 61 children (96.8%) were breastfed children under five. Meanwhile, the remaining or 2 children (3.2%) were non-breastfed children under five.

The bivariate analysis was used to know whether there was a relationship between exclusive breastfeeding practice and the phenomenon of stunting and wasting. Based on Table 4, it can be seen that out of 2 non-breastfed children under five, only 1 child under five (0.05%) is stunted. Meanwhile, out of 61 breastfed children under five, the 24 children under five (39.3%) are stunted. The result of the chi-square test obtained a p-value of 0.76 that was more than 0.05, indicating that there was no significant relationship between exclusive breastfeeding practices and stunting. Based on Table 5, it is found that out of 2 children under five, only 1 child (0.05%) that is non-breastfed children under five and is wasted. Meanwhile, out of 61 breastfed children under five, only 5 children (8.1%) that are wasted, and the remaining or 56 children are not wasted. The result of the chi-square test obtained a p-value of 0.04 that was less than 0.05, indicating that there was a significant relationship between exclusive breastfeeding practices and wasting.

V. TABLE DISTRIBUTION FREQUENCY OF EXCLUSIVE BREAST MILK, WASTING (MALNUTRITION), STUNTING

Table 1. Distribution Frequency of Exclusive Breast Milk

No	Category Exclusive Breast Milk	Frequency	Percentage (%)
1	Yes	61	96,8%
2	No	2	3,2%
	Jumlah	63	100%

Table 2. Distribution Frequency of Stunting

No	Category <i>Stunting</i>	Frequency	Percentage (%)
1	Yes	25	39,7%

2	No	38	60,3%
	Total	63	100%

Table 3. Distribution Frequency of Malnutrition (Wasting)

No	Category Wasting (Malnutrition)	Frequency	Percentage (%)
1	Yes	6	9,5%
2	No	57	90,5%
	Total	63	100%

VI. STUDY RESULT, SUMMARY AND CONTRIBUTION

The Relationship between Exclusive Breastfeeding Practices and Stunting

Parents often consider that a child with a height below the average height at their children's age is a common issue. They consider that their children do not grow up due to the children's early age. If that problem is not detected for 2 years, the children will be stunted; when their children are already stunted, it is already late to increase their nutritional status [5].

The result of the study showed that there was no significant relationship between exclusive breastfeeding practices and stunting. It occurred because most of the mothers in Leran village had already breastfed their children with exclusive breast milk compared to the total mother who did not breastfeed their children. From 63 respondents, 61 of them had already breastfed their children with exclusive breast milk. Meanwhile, the remaining did not breastfeed their children with exclusive breast milk.

Most studies had explained that exclusive breast milk had a relationship with stunting. The statement was certainly supported by some studies. According to [6]. It is stated that there is a significant relationship between exclusive breastfeeding practice and the phenomenon of stunting. Breastfeeding with exclusive breast milk could increase the children's survival and it could decrease stunting. Non-breastfed children had 25 times higher risk of experiencing stunting than the breastfed children [8]. However, there was a study stating that exclusive breastfeeding practices had no relationship with the phenomenon of stunting. It could be seen from the finding of a survey done in eight countries in Asia and Africa that only 2 countries showed a significant result in the relationship between exclusive breast milk and stunting. Breastfeeding with exclusive breast milk in a long time could be related to stunting. Breastfeeding the children with exclusive breast milk for more than 6 months had 1.36 times higher risk of experience stunting compared to the children that were breastfed with exclusive breast milk for less than 6 months. Exclusive breastfeeding practices for more than 6 months would delay the process of giving weaning food. Being delayed in giving weaning food would cause a lack of

nutrition intake in children. Lack of nutrition intake would cause delayed growth and development. After 6 months of being breastfed, the children should get weaning food. Only breastfeeding the children was not sufficient for fulfilling the needs for energy and nutritional substances [14].

From the statement, the breastfed children in a long time, namely for more than 6 months, would potentially result in stunting. Breastfeeding the children in a long time would delay the process of giving weaning food to the children. Based on the data collected in Leran village, exclusive breastfeeding practice was mostly done for around 2 years.

The Relationship between Exclusive Breastfeeding Practice and Wasting

Good nutritional status is one of the factors that can increase the health level. The number of nutrition-related problems in society often illustrated the nutrition-related problem that occurred in children under five that were susceptible to malnutrition. One of the ways that could be used for assessing the nutritional status was by comparing the weight to the body length or the weight to the height. The method would illustrate wasting in children. [18].

The need for nutrition intake in children could be obtained from breast milk. In the baby's growth period, breast milk is strongly required for fulfilling nutritional needs. In fulfilling the baby's nutrition intake, the mothers should breastfeed the baby with exclusive milk until the baby's age reached 6 months old and when the baby reached the age of 2 years old, the mothers kept breastfeeding them to fulfill the nutrition intake [1].

Malnutrition or commonly known as wasting is the phenomenon when a child's weight is below the average weight. Based on the measurement of the weight-for-height index, it could be categorized as wasting if the Z score was less than 2 SD [17]. The cause of wasting (malnutrition) is a lack of nutrition intake. Lacking nutrition intake can occur due to bad personal sanitation and hygiene [19]. It could lead to several diseases, such as URI (Upper Respiratory Tract Infection) and diarrhea. The children who frequently have infectious diseases tend to be [2]. The findings showed that there was a significant relationship between exclusive breastfeeding practice and wasting. It is supported by several studies, concluding that non-breastfed babies had a mortality risk 3.94 times higher due to diarrhea compared to breastfed babies [3].

Based on the data collected from Leran village, from 63 respondents, nearly all of the respondents had already breastfed the children with exclusive breast milk. However, the phenomenon of wasting still occurred in children. Exclusive breastfeeding practice was not the only factor that could cause wasting in children but other variables also played an important role to cause wasting, namely knowledge, attitude, behavior, and the mothers' characteristics toward exclusive breast milk. This was supported by a study stating that the mothers' knowledge, attitude, behavior, and the mothers' characteristics affected the children's nutritional status [16].

The majority of the resident's educational level in Leran village was high school graduates. The knowledge owned by the resident was quite good because they knew the impact that would happen if they did wrongdoings. Nevertheless, the awareness toward both personal hygiene and sanitation was categorized as poor. The primary cause of wasting was nutrition intake; lacking nutrition intake might happen due to poor personal hygiene and sanitation [19]. From the research finding, it could be seen that there was no relationship between exclusive breastfeeding practice and the phenomenon of

stunting. Meanwhile, there was a significant relationship between exclusive breastfeeding practice and the phenomenon of wasting.

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