

The Relationship Between Exclusive Breastfeeding And Diarrhea In Children Aged 6-24 Months At Aek Parombunan Public Health Center, South Sibolga 2019

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Abstract. Diarrhea is a symptom of infection in the intestinal tract with the second death rate in the world in children under five years of age. Risk factors for the incidence of diarrhea in children under five are host factors that increase susceptibility to diarrhea, not giving exclusive breastfeeding (ASI), not giving breastfeeding for 2 years, malnutrition, measles and immunodeficiency. Breastfeeding (ASI) contains the best nutrients that match the needs of the baby and exclusive breastfeeding is carried out from birth to the first six months without any additional food or drink. Several studies have shown that the immunity content of breastfeeding is able to coat the gastrointestinal mucosa and protect the digestive tract from incoming pathogens. The aim of this study is to find out the relationship between exclusive breastfeeding and the incidence of diarrhea in children aged 6-24 months at Puskesmas Aek Parombunan, Sibolga Selatan in 2019. The research design used was observational analytic cross-sectional with the criteria for the research sample of toddlers aged 6-24 months. The sampling technique in this study used total sampling. The research instrument was a medical record and data analysis used the chi-square test. Based on the results of the study, there was a relation between exclusive breastfeeding and the incidence of diarrhea.

Keyword: Exclusive breastfeeding, Diarrhea, Toddler.

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1. Introduction

Diarrhea is a symptom of infection in the intestinal tract caused by various viruses, bacteria and parasites. Usually the spread of infection is through contaminated food or drink. Globally every year the incidence of diarrhea in children under five reaches 1.7 billion cases worldwide, and causes about 525,000 children under five to die per year [1].

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In 2018, Indonesia handled diarrhea cases of all ages as many as 4,165,789 cases with the 3 most cases in the provinces of East Java (819,729 cases), Central Java (583,700 cases) and West Java (393,434 cases). North Sumatra itself has 128,226 cases (33.17%) of these cases, the incidence of diarrhea in children under five in North Sumatra is 42,812 cases (16.73%). Of the 33 districts / cities in North Sumatra, the highest case finding and handling of diarrhea was in 3 districts / cities, namely Samosir district (58.87%), Sibolga city (50.80%), and North Padang Lawas district (47.69 %) [2].

Risk factors for the incidence of diarrhea in children under five are host factors that increase susceptibility to diarrhea, not giving exclusive breastfeeding (ASI), not giving breastfeeding for 2 years, malnutrition, measles and immunodeficiency [3]. Exclusive breastfeeding is breastfeeding given to babies from birth for six months without adding and / or replacing them with other foods or drinks [4]. Various studies have consistently shown that breastfeeding is the best nutrition for babies because it contains nutrients that match the baby's needs. The nutritional content includes essential fatty acids, protein and carbohydrates in the right composition. The main nutritional content that can't be matched by formula milk is immunity content such as immunoglobulins, lactoferrin, lysozyme, and cytokines [5].

The percentage coverage of babies who are exclusively breastfed from 2012-2017 tends to increase. Achievements in 2017 of 45.31% have reached the national target of 40%. There are 16 out of 33 districts / cities with the achievement of $\geq 40\%$ with the 3 largest percentages namely Asahan (96.61%), South Labuhan Batu (89.41%), West Pakpak (75.11%). While the city of Sibolga has coverage of exclusive breastfeeding (27.38%), which is 244 children [2].

The aim of this study is to find out the relation between exclusive breastfeeding with the incidence of diarrhea in children aged 6-24 months at Aek Parombunan Public Health Center, South Sibolga in 2019.

2. Methodology

This study used an observational analytic method with a cross sectional study approach. This research was conducted at Aek Parombunan Public Health Center, Sibolga City in November 2020. The population in this study were toddler patients aged 6-24 months who were treated/controlled at Aek Parombunan Public Health Center in 2019. The sample in this study were all populations that met the predetermined sample criteria. The sampling technique in this study was total sampling. Total sampling is a sampling technique where the number of samples is the same as the population. Determination of sample criteria helps researchers to reduce the bias of the research results. The sample criteria were inclusion and exclusion.

Inclusion Criteria

1. Toddler patients aged 6-24 months

Exclusion Criteria

1. Toddler patients aged 6-24 months with incomplete medical record data

The data collection technique in this study is in the form of primary data through secondary data that is the patient's medical record. The dependent variable of this study was the occurrence of acute diarrhea, while the independent variable was exclusive breastfeeding. All data collected was recorded and edited and coded, then entered into the SPSS (Statistical Product and Service Solution) computer program for further analysis. The type of data analysis used is univariate analysis (descriptive analysis) which will produce a frequency distribution and percentage of each variable and bivariate analysis which will produce a relation between two variables using the chi square formula (χ^2) and the strength of the relationship between the two variables with the contingency coefficient formula (C). The null hypothesis (H_0) is rejected if the significance value is chi-square < 0.05 or the calculated chi-square value is greater ($>$) than the chi-square table value. The formula is: [6]

$$\chi^2 = \frac{[\sum(f_o - f_e)]^2}{f_e}$$

$$C = \sqrt{\frac{\chi^2}{\chi^2 + N}}$$

Where :

- χ^2 : The value of chi-square
- f_e : Expected frequency
- f_o : Frequency obtained/ observed
- N : Total data

3. Result and Discussion

This research was conducted at Aek Parombunan Public Health Center, South Sibolga in November 2020. The study was conducted on toddlers 6-24 months with visits to Aek Parombunan Puskesmas with a total of 96 people. This study aims to determine the relationship between exclusive breastfeeding and the incidence of diarrhea in children aged 6-24 months at Aek Parombunan Public Health Center, South Sibolga in 2019. The results of the study will be explained as follows:

Table 3.1 Data on Visits of Children 6-24 Months at Aek Parombunan Public Health Center, South Sibolga for the period January - December 2019

Variable	Frequency	Percentage
January	5	5.2
February	10	10.4

March	12	12.5
April	5	5.2
May	20	20.8
June	8	8.3
July	7	7.2
August	9	9.3
September	6	6.2
October	3	3.1
November	4	4.1
December	7	7.2
Total	96	100

Based on table 3.1, it is stated that the maximum number of children under 6-24 months at Aek Parombunan Public Health Center in May is 20 people (20%), and at least 3 people in October (3%).

Tabel 3.2 Distribution of Frequency Based on Age in Toddlers 6-24 Months at Aek Parombunan Public Health Center, South Sibolga

Age	Frequency	Percentage
6-12 months	50	52.0
13-24 months	46	48.0
Total	96	100

Based on table 3.2, it is stated that the age at most 6-12 months is 50 people (52%), and the minimum age is 13-24 months as many as 46 people (48%).

Tabel 3.3 Distribution of Frequency Based on Gender in Toddler 6-24 Months at Aek Parombunan Public Health Center, South Sibolga

Gender	Frequency	Percentage
Male	49	51
Female	47	49
Total	96	100

Based on table 4.3, it is stated that the sex at most was male as many as 49 people (51%) and female as many as 47 people (49%).

Tabel 3.4 Distribution of Frequency Based on Exclusive Breastfeeding for Children 6-24 Months at Aek Parombunan Public Health Center, South Sibolga

Breastfeeding	Frequency	Percentage
Yes	43	55.2
Not	53	44.8
Total	96	100

Based on table 3.4, it states that breastfeeding for toddlers is mostly mothers who do not give ASI to their children as many as 53 people (55%) and breastfeeding for 43 people (45%).

Tabel 3.5 Distribution of Frequency Based on the Incidence of Diarrhea in Toddlers 6-24 months at Aek Parombunan Public Health Center, South Sibolga

Diarrhea	Frequency	Percentage
Yes	71	74.0
Not	25	26.0

Total	96	100
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Based on table 3.5, it is stated that at most children 6-24 months of age have diarrhea as many as 71 people (74%) and those who do not have diarrhea as many as 25 people (26%).

Table 3.6 The Relationship between Exclusive Breastfeeding Based on the Incidence of Diarrhea in Children 6-24 Months at Aek Parombunan Public Health Center, South Sibolga

	Diarrhea				Total	p value
	Yes		Not			
ASI	n	%	n	%	n	%
Yes	37	38.5	6	6.2	43	44.8
Not	34	35.4	19	19.8	53	55.2
Total	71	74.0	25	26.0	96	100.0

Based on table 4.6, it is stated that the results of the chi square analysis test found the value of $p = 0.015$ ($p < 0.05$), which means that there is a significant relationship with exclusive breastfeeding with the incidence of diarrhea in children 6-24 months at the Aek Parombunan Public Health Center.

The results of this study were mostly 7-12 months old. Based on table 3.3, it states that the gender at most is male. Sibolga City sub-district is a sub-district that is located right in the center of Sibolga city with a population of 14,279 people. The results of this study are in accordance with that conducted by Wololi et al (2016) which states that the most gender groups with the highest frequency are 30 people (65.21%) [7]. Based on table 3.4, it is stated that breastfeeding for children under five is mostly mothers who do not give breastfeeding to their children. The low level of knowledge of respondents is thought to be caused by, among other things, lack of information, lack of clarity of information, and lack of ability of respondents to understand the information received. This supplementary food is believed to help meet the baby's food and beverage needs.

For working mothers, efforts to provide exclusive breastfeeding often experience obstacles due to the short period of maternity and childbirth leave. Before exclusive breastfeeding ends completely, she must return to work. Busy people will have less time to obtain information, so the level of education they get is also reduced [8].

According to Puspitasari (2011), one form of family support is in the form of assistance in the form of materials such as money loans, physical assistance in the form of tools or other things that support and help solve problems. In overcoming the tension of family presence, it is very important to encourage mothers to increase self-confidence and stabilize their emotions, as well as to provide great motivation for breastfeeding mothers. Family support has a relationship with the success of exclusive breastfeeding for babies [9].

The World Health Organization (WHO) recommends that babies should only be given breastfeeding (ASI) for at least 6 months, and breastfeeding is continued until the baby is two years old, accompanied by complementary feeding [10]. Based on table 3.5, it is stated that at most children 6-24 months of age have diarrhea as many as 71 people (74%). Diarrhea is the discharge of feces that are soft to liquid which can lead to fever, stomach pain, decreased appetite, fatigue and weight loss [11]. The results of this study are in accordance with the research of Ningsih (2016) which states that there is a relation between breastfeeding, maternal occupation, infant nutritional status and the incidence of diarrhea in infants. Breastfeeding is the most influencing factor with the incidence of diarrhea in infants. Breastfeeding reduces the incidence of diarrhea in infants [12].

4. Conclusion

- a. Mothers who don't provide exclusive breastfeeding (55%) more than mothers who provide exclusive breastfeeding (45%) for toddlers aged 6-24 months at Aek Parombunan Public Health Center, South Sibolga.
- b. The incidence of diarrhea was found to be higher, namely 71 (74%) in toddlers aged 6-24 months at Aek Parombunan Public Health Center, South Sibolga.
- c. There is a statistically significant relationship ($p = 0.015$) between exclusive breastfeeding and the incidence of diarrhea among toddlers aged 6-24 months at Aek Parombunan Public Health Center, South Sibolga.

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