

Factors Related To The Occurrence Of Diarrhea In Children In River Village Lala Work Area Health Lala River District Indragiri Hulu

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ABSTRACT (10PT)

Diarrheal disease is a leading cause of death in children under five. There are several factors that cause diarrhea one's behavior. Based on data from 18 health centers in Indragiri Hulu in 2016, one of the health centers with the highest incidence of diarrhea was obtained 110 health centers Lala River toddler has diarrhea of a total of 419 infants with the highest cases in Sungai Lala there were 36 cases. This study aims to determine the factors associated with the incidence of diarrhea in infants in Lala River Region Public Health Center Indragiri Hulu. This type of quantitative research with cross sectional approach. The study was conducted in Sungai Lala, Mechanical sampling total sampling, Samples of this study amounted to 57 respondents. Data were analyzed by univariate and bivariate. The results showed 70.2% children did not experience diarrhea, as many as 80.7% were exclusively breastfed, the majority of the use of a bottle of milk for infants was 66.7%, more mothers who have poor hand washing habits 40.4% and the majority of clean water is contaminated with 68.4% of respondents. The results of chi square test found no relation of exclusive breastfeeding ($p = 0.068$) and using contaminated water ($p = 0.481$) and the incidence of diarrhea in infants. An association use of the bottle ($p = 0.019$) and hand washing ($p = 0.006$) and the incidence of diarrhea in infants. It is expected that the mother to be able to maintain the cleanliness of hands before touching food or before feeding infants and use hygienic milk bottles to prevent diarrhea in infants.

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I. Introduction

The problem of health is an issue that is very complex and interrelated with other issues outside of health itself. Similarly, solving health problems in the community, not only in terms of health, but should be seen also in terms of its influence on the problems existing health-illness or health itself (Notoatmodjo, 2011). Environmental health is part of the foundations of public health encompasses all aspects of human beings in relation to the environment, which is bound to various ecosystems. Environment is everything that surrounds the outside conditions of human or animal cause transmission of the disease (Timmreck, 2014).

One environmentally based disease is diarrhea. Diarrhea is a bowel movement (defecation) with increasing frequency (three times in 24 hours) accompanied by a change in stool consistency becomes soft or liquid, with or without blood or mucus. Diarrhea is generally caused by the entry of viruses and bacteria into the body, The main entry point of the infection through animals, food, water, and human contact faeces (Wijoyo, 2013),

When a child has diarrhea and vomiting continuously, at first, the children feel thirsty because there have been dehydrated (lack of body fluids) light only causes dry lips and wrinkled skin and



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eyes and fontanel sunken (in babies aged less than 18 months). Meanwhile, severe dehydration can be fatal, which causes shock. Children who suffer from diarrhea could be impaired growth (malnutrition), if it does not get the proper nutrition therapy. In fact, diarrhea can result in death, when dehydration is not getting treatment and treatment with either (Mufidah, 2012).

Diarrheal disease is a leading cause of death in children under five. Each year, diarrhea kills about 525,000 children under five. Most diarrhea can be prevented through safe drinking water and adequate sanitation and hygiene. Globally, there are nearly 1.7 billion cases of diarrheal disease in children each year, and diarrhea is a major cause of malnutrition in children under five (WHO, 2017). Diarrhea occurs worldwide and causes 4% of all deaths and 5% of morbidity worldwide each year, mostly children in developing countries (WHO, 2016).

There are several factors that cause diarrhea one behavior, Behavioral factors that cause diarrhea are children who do not wash their hands before eating and after defecation, and mothers who do not wash their hands before serving food, not cook food or drinking water properly, the mother did not breastfeed exclusively for members ASI in full have power 4 times greater protection against diarrhea than a breastfed penberian accompanied by milk formula. The use of bottles that are not higenes making it easier for contamination by germs and habits using contaminated drinking water (MoH, 2016). Based on the results Apriyanti (2009) obtained results showed that the percentage incidence of diarrhea in children aged 6-24 months is 42.2%. Statistically the results of this study are as follows, there is a significant relationship between exclusive breastfeeding, provision of complementary feeding, hand washing and use of latrines with the incidence of diarrhea in children. There is no significant relationship hygiene bottles, water treatment, and effectiveness of health education with the incidence of diarrhea in children.

Indonesia's health profile data 2015, the incidence of diarrhea in Indonesia ranges from 74.3%. Then the total discovery of cases of diarrhea in healthcare facilities by 2015 in Indonesia is as much as 5,405,235 cases of diarrhea and in Riau as many as 134 955 cases of diarrhea (MoH RI, 2015). One of the districts with the highest incidence of diarrhea Indragiri Hulu 4,016 cases. Based on data from 18 health centers in Indragiri Hulu in 2016, One of the health centers with the highest incidence of diarrhea was obtained 110 health centers Lala River toddler has diarrhea of a total of 419 infants with the highest cases in Sungai Lala there were 36 cases (DHO Indragiri Hulu, 2016).

based on initial survey researcher at the Public Health Center Lala River on 22 April 2017, mother's behavior in the provision of exclusive breastfeeding is still low, characterized by results Interview which shows 6 mothers came carrying a toddler to the health center said they do not always wash hands with soap and running water before preparing food for children and after cleaning or changing a child's diaper. The results of the interview obtained four (4) mother said source of clean water for washing, bathing and for consumption comes from ground wells, two mothers said source of clean water for bathing and washing using the wellbore, while for consumption (drinking) use refillable water. Based on these data researchers interested in conducting research titled "Factors associated with the incidence of diarrhea in infants Sungai Lala Puskesmas Lala River Indragiri Hulu ",

II. Method

This type of research used by the researchers is quantitative analytical observational design by using a cross sectional study, This research conducted in Sungai Lala, The research was conducted on 25 September to 7 October 2017, population of 57 toddlers, Sampling technique is total Sampling with a sample size of 57 people. Data dianalasi use univriat and bivariate analysis.

III. Results and Discussion

Characteristics of Respondents

Respondents category	n	%
Age		
Risk (<20 and> 35 years)	6	10.5
Not at risk (20-35 years)	51	89.5
Total	57	100
Education		
SD	2	3.5
SMP	9	15.8
High School	35	61.4
PT / equivalent	11	19.3
Total	57	100
Work		
IRT	39	68.5
Private	10	17.5
entrepreneur	8	14
Total	57	100

Based on the above table it can be seen that majority respondents in the age group is not at risk (20-35 years) were 51 person (89.5%), based on more education high school-educated respondents ie 35 (61.4%) and the majority of respondents are IRT many as 29 people (68.5%),

Based on the Frequency Distribution Characteristics of Toddlers in Sungai Lala Lala River District Indragiri Hulu

characteristics of Toddlers	n	%
Age		
Age infants (0-12 months)	9	15.8
Toddler (1-3 years)	33	57.9
Pre-school age (3-5 years)	15	26.3
Total	57	100
Gender		
Man	24	42.1
woman	33	57.9
Total	57	100

Based on the above table it can be seen that more infants in the age group of toddler 33 (57.9%) and more infants were female 33 persons (57.9%),

Usage Frequency Distribution Milk Bottle on Toddlers in Sungai Lala Lala River District Indragiri Hulu

Categories of respondents	n	%
Management of Milk Bottle		
Bad	19	33.3
Good	38	66.7
Total	57	100
Hand Washing Habits		
Bad	23	40.4
Good	34	59.6
Total	57	100
Clean Water		
Not eligible	39	68.4
Qualify	18	31.6
Total	57	100
Genesis Diarrhea		
Yes	17	29.8
No	40	70.2
Total	57	100

Based on the data in the above table the majority of management obtained a bottle of milk for toddlers is good as many as 38 people (66.7%). More banyakk mother who has a good hand washing habits as many as 34 people (59.6%). The majority of the water supply systems of respondents did not qualify as many as 39 people (68.4%). and the majority of infants do not have diarrhea as many as 40 people (70.2%).

Bivariate analysis

Relationship Use of Milk Bottle Genesis Diarrhea in Toddlers in Sungai Lala Puskesmas Lala River Indragiri Hulu

Management of Milk Bottle	Genesis Diarrhea				<i>p value</i>
	Yes		No		
	n	%	n	%	
Bad	10	52.6	9	47.4	0,019
Good	7	18.4	31	81.6	
Total	17	29.8	40	70.2	

Based on the above table it is known that out of 19 respondents managementbottle very bad obtained 10 infants (52.6%) who experienced diarrhea and as many as nine infants (47.4%) who did not experience diarrhea. Of the 38 respondentsmanagementbottle very well earned seven infants (18.4%) who had diarrhea and 31 infants (81.6%) who did not experience diarrhea. Statistical analysis showed 0,019 *p value* <0.05, it was concluded that there was relationship management of milk bottles the incidence of diarrhea in infants Sungai Lala Puskesmas Lala River Indragiri Hulu, Based on the value of OR 4.921 indicates that infants with the use of bad milk bottle 4.921 times the risk of experiencing diarrhea than infants with the use of a good bottle of milk

Relationship Hand Washing Habits Genesis Diarrhea in Toddlers in Sungai Lala Puskesmas Lala River Indragiri Hulu

Clean Water	Genesis Diarrhea				<i>p value</i>
	Yes		No		
	n	%	n	%	
Bad	12	52.2	11	47.8	0,006
Good	5	14.7	29	85.3	
Total	17	29.8	40	70.2	

Based on the above table it is known that out of 23 respondents who have a poor hand washing habits found 12 infants (52.2%) who experienced diarrhea and as many as 11 infants (47.8%) who did not experience diarrhea. Of the 34 respondents who have a good hand washing habits obtained 5 infants (14.7%) who experienced diarrhea and as many as 29 infants (85.3%) who did not experience diarrhea. Statistical analysis showed the p value $0.006 < 0.05$, it was concluded that there was relationship handwashing the incidence of diarrhea in infants Sungai Lala Puskesmas Lala River Indragiri Hulu, Based on the value of 6.327 indicates that the mother OR which has a poor hand washing habits 6.327 times the risk of their babies had diarrhea compared to mothers who have the habit of washing hands good.

Relationship Clean Water Genesis Diarrhea in Toddlers in Sungai Lala Puskesmas Lala River Indragiri Hulu

Clean Water	Genesis Diarrhea				<i>p value</i>
	Yes		No		
	n	%	n	%	
Not eligible	10	25.6	29	74.4	0,006
Qualify	7	38.9	11	61.1	
Total	17	29.8	40	70.2	

Based on the above table it is known that from 39 respondents of clean water does not qualify obtained 10 infants (25.6%) who experienced diarrhea and as many as 29 infants (74.4%) who did not experience diarrhea. Of the 18 respondents who qualify means clean water obtained seven infants (38.9%) who experienced diarrhea and as many as 11 infants (61.1%) who did not experience diarrhea. Statistical analysis showed the p value $0.481 > 0.05$, it was concluded that there was no relationships using water contaminated with the incidence of diarrhea in infants in Sungai Lala Puskesmas Lala River Indragiri Hulu.

DISCUSSION

Use of Milk Bottle relationship with Genesis Diarrhea in Toddlers in Sungai Lala Lala River Region Public Health Center Indragiri Hulu

Based on the results of a study of 57 respondents relationship with the use of a milk bottle incidence of diarrhea in children under five using statistical tests obtained p value $0.019 < 0.05$, it was concluded that there is a relationship of use milk bottles with diarrhea in infants in Sungai Lala Lala River Regional District Puskesmas Indragiri Hulu. Based on the value of OR 4.921 indicates

that infants with the use of bad milk bottle 4.921 times the risk of experiencing diarrhea than infants with milk bottle good use.

The results are consistent with the Ministry of Health(2011) which states that the use of a milk bottle facilitate contamination by germs, because the bottle difficult to clean. The use of bottles for infant formula, usually causes a high risk of diarrhea, which causes malnutrition.

According to Adisasmito (2013), *E. coli* bacteria into the human body through the hands or tools such as bottles, pacifiers, thermometers and eating utensils contaminated by the feces of the patient or carrier. Children, especially toddlers are very fond of using the bottle. Milk bottles generally be complementary addition to breastmilk or even become a basic requirement for children who were not breastfed. The use of bottles is necessary because highly vulnerable to contamination of bacteria and it is influenced by the mother's behavior with a risk factor for diarrhea. So, pay attention to the cleanliness of the bottle before use is very essential for the mother.

The results are consistent with research Paramitha (2015) with the relationship between the behavior of mothers who use milk bottles with the incidence of diarrhea in children under five in Sub Kayuringin Jaya District of South Bekasi Bekasi City with the result there is a relationship of use milk bottles pdengan incidence of diarrhea in infants Village Kayuringin Jaya Jakarta District South Kota Bekasi with $p = 0.002$.

According to the assumptions of researchers, there is a relationship using a bottle of milk on the incidence of diarrhea in infants because infants .hampir every day using a bottle of milk (dot) so that the cleanliness of the milk bottle is absolutely necessary to protect infants from bacteria such as *E. coli* that cause diarrhea.

Hand Washing Habits relationship with Genesis Diarrhea in Toddlers in Sungai Lala Lala River Region Public Health Center Indragiri Hulu

Based on the results of a study of 57 respondents about handwashing relationship with the incidence of diarrhea in infants using statistical tests obtained p value $0.006 < 0.05$, it was concluded that there is a relationship handwashing with diarrhea in infants in Sungai Lala Lala River Regional District Puskesmas Indragiri Hulu. Under the POR value of 6.327 indicates that mothers who have poor hand washing habits are at risk of 6.327 times the babies had diarrhea than those who have a good hand washing habits.

This research is consistent with the theory according to Wijaya (2012) who said handwashing affect the occurrence of diarrhea in infants. Chances are this is because toddlers are particularly vulnerable to microorganisms and a variety of infectious agents, all the activities of toddler assisted by parents, especially the mother, so hand washing is required by the mother before and after contact with a toddler, which aims to reduce the risk of diarrhea in infants.

This is consistent with the theory Sofwan (2011) which states that washing hands properly reduce the incidence of diarrhea by 47%. Hands are one of the media entry of germs that cause disease in the body. Thus, if a person is accustomed to wash hands, especially at key times then it will minimize the entry of germs through hand.

The results are consistent with research conducted by Metyn (2014) to determine the factors associated with the incidence of diarrhea in infants in Puskesmas Tahuna Manado Sangihe Islands Regency East, where the results obtained 38.4% of parents have the habit of washing hands which is not good, as much as 28.2% children had experienced diarrhea. While the statistical test results obtained by value p value = $0.000 < 0.05$, which means there is a relationship handwashing on diarrhea in infants.

According to investigators, wash hands with soap, especially after defecation, after throwing feces of children, before preparing food, before feeding a child's eating and before eating has an impact on the incidence of diarrhea. In this study, there are parents who wash their hands well but his son has diarrhea, it can be due to many factors that cause diarrhea in infants that are not investigated in this study.

Clean Water Relations Genesis Diarrhea in Toddlers in Sungai Lala Lala River Region Public Health Center Indragiri Hulu

Based on the results of a study of 57 respondents about the relationship of clean water with the incidence of diarrhea in infants using statistical tests obtained p value $0.481 > 0.05$, it was concluded that there was no association of clean water with the incidence of diarrhea in infants in Sungai Lala Lala River Region Public Health Center Indragiri Hulu. The results of this study are not consistent with the theory Proverawati (2012), who said that the availability of water affects the health. Clean water is not at risk of causing diseases such as diarrhea, cholera, disenti, typhoid, intestinal worms, eye diseases, skin diseases and poisoning. For the water used must meet health requirements as colorless (transparent), free of dirt, tasteless and odorless.

The results of this study are not consistent with the theory Wulandari (2009), which states the source of drinking water is one of the sanitation facilities of no less importance with regard to the incidence of diarrhea. Most infectious germs that cause diarrhea transmitted through the fecal oral route. They can be transmitted by inserting into the mouth, liquids or objects contaminated with feces, such as drinking water, the fingers and the food was prepared in a pan washed with contaminated water.

The results are consistent with research conducted by Evayanti (2014) to determine the factors associated with the incidence of diarrhea in children under five who went to the BRSU Tabanan Denpasar, statistical test results obtained by value $p = 0.720 > 0.05$, which means there is no relationship sources drinking water on the incidence of diarrhea in infants.

Researchers found the diarrhea may be caused by other factors, for example, although the respondents treat water minumya well but have behavior that is not good hand washing can also cause diarrhea in infants as well as many other factors that cause diarrhea are not studied. In addition, many respondents who use refillable mineral water for consumption purposes so that the water is free of pathogens that cause diarrhea, therefore, safe to eat, although not cooked more at home.

IV. Conclusion

There is no exclusive breastfeeding relationship with the incidence of diarrhea in infants in Sungai Lala Lala River Region Public Health Center Indragiri Hulu ($p = 0.068$). There is a connection with the use of a milk bottle incidence of diarrhea in infants in Sungai Lala Lala River Region Public Health Center Indragiri Hulu ($p = 0.019$). There is a relationship handwashing with diarrhea in infants in Sungai Lala Lala River Region Public Health Center Indragiri Hulu ($p = 0.006$). There is no relationship using polluted water with incidence of diarrhea in children under five in Sungai Lala Lala River Region Public Health Center Indragiri Hulu ($p = 0.481$).

Suggestion for Respondents expected to women to increase their knowledge and insights about the diarrhea in children under five by following the extension in Posyandu or Puskesmas, thus the mother knows about the factors that cause diarrhea and can keep clean their hands before touching makanana or before feeding a toddler and using a milk bottle hygienically prevent diarrhea in infants. for health centers expected for health centers to provide training to the cadres Posyandu on the prevention of diarrhea in infants such as how to wash hands properly and when to wash hands well and how memberihkan milk bottle properly, so that volunteers can apply the information obtained to the public to prevent the occurrence of diarrhea, For further research it is expected for the next researcher is expected to be able to continue his research on factors associated with the incidence of diarrhea in infants with variables not examined in this study, such as viruses, bacteria and factors lingkungan using qualitative methods and the results of this study can be used as comparison.

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