

Conference Paper

Correlation Family's Healthy Lifting Behavior with Diarrhea in Toddlers

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Abstract

Diarrhea is a continuous stimulation of defecation and feces that still have excess water content, defecate more than three times a day and usually last more than two days. Diarrhea is the second leading cause of death in toddlers after pneumonia. Diarrhea can be prevented through the application of family's healthy living behavior (breastfeeding history, use of clean water, hand wash habits of toddlers and use of healthy latrines, weigh toddlers every month). The purpose of study was to determine the correlation between family's healthy living behavior and diarrhea in toddlers. This research is quantitative analytical survey use cross sectional study. The Sample's number were 90 mothers who have toddlers at integrated service post in the working area of Rejosari Pekanbaru Public Health Center. Sampling using simple random sampling technique, use questionnaire, then analysed with chi square test. The results of this study concluded that four variables correlation with the incidence of diarrhea, they were exclusive breastfeeding history, use of clean water, hand wash habits of toddlers and use of healthy latrines. One variable which no correlation that weigh toddlers every month. It is expected that the community can apply healthy living behavior in family to prevent toddler from diarrhea.

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1. Introduction

Diarrhea is a continuous stimulation of defecation and feces that still have excess water content, defecate more than three times a day and usually last more than two days. One of the main causes of toddler's mortality is diarrhea [1]. Diarrhea is the second leading cause of death in children under five after pneumonia [2]. Diarrhea causes faster death in children than adults due to dehydration and malnutrition. In the development of the Sustainable Development Goals (SDG's) the decline in toddler's mortality is one of the targeted indicator [3].

Diarrhea is a continuous stimulation of defecation and feces that still have excess water content, defecate more than three times a day and usually last more than two days. People who diarrhea will lose body fluids resulting in dehydration [4]. Diarrhea

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is a disease that is still a major problem, especially in developing countries, including Indonesia. In Indonesia, there are 1.6 to 2 diarrhea events per year among toddler, so that overall the estimated incidence of diarrhea in toddlers ranges from 40 million a year with deaths of 200,000-400,000 toddlers [5].

The incidence of diarrhea in toddlers is basically preventable. One of the prevention of diarrhea is the implementation of Family's Healthy Behavior. There are 5 Family's Healthy Behavior indicators related to the incidence of diarrhea in toddlers, they are the history of exclusive breastfeeding, weighing toddlers every month, using clean water, washing hands in toddlers and using latrines [6]. Breastfeeding also provides protection against diarrhea. Babies who are not given exclusive breastfeeding are at risk of getting diarrhea 30 times greater than babies who are given breastfeeding [1]. Weighing every month in integrated service post is useful to detect diarrhea for toddlers. Water is a basic need that is used daily, so using clean water is one way to avoid themselves from diseases such as diarrhea [2]. Hand washing habits have been proven to prevent diarrhea as much as 45%. A healthy latrine will keep the environment clean, healthy and odorless so that it does not invite flies or insects that can become diarrheal diseases. Based on data from Pekanbaru Health Office, toddlers in the area of Rejosari Village, experienced the highest increase in diarrhea cases in 2016 with 256 cases.

2. Research Metode

This type of research is a quantitative analytical approach using a cross-sectional research design. The population in this study were all mothers who had toddlers 1 - 4 years in 13 Posyandu who resided in the Working Area of the Rejosari Public Health Center in Pekanbaru as many as 831 toddlers, with 90 samples. Sampling using simple random sampling technique, use questionnaire, then analysed with chi square test. Data analysis was carried out univariately and bivariately by Chi-Square test with 95% confidence level $p = 0.05$. If p value is <0.05 , meaning that it shows a significant correlation between two variables.

3. Results

3.1. Univariately analysis

3.2. Bivariat analysis

TABLE 1: Distribution frequensi of variable.

No	Variables & kategori	Frequency n=90	Percentage (%)
1	Incidence of diarrhea		
	Had diarrhea	41	46
	Never had diarrhea	49	54
2	History of exclusive breastfeeding		
	Had not got EB	59	66
	Had got EB	31	34
3	Weighing toddler		
	Had not weigh	39	57
	Had weigh	51	43
4	Use of clean water		
	Had not eligible	45	50
	Had eligible	45	50
5	Hand washing habit		
	Had not good	65	28
	Had good	25	72
6	Use of healthy latrines		
	Had not good	52	58
	Good	38	42

3.2.1. Correlation between history of exclusive breastfeeding with the incidence of diarrhea

TABLE 2: Correlation Between History of Exclusive Breastfeeding and incidence of Diarrhea.

History of exclusive breastfeeding	Incidence of Diarrhea				Total		P Value	POR 95%CI
	Had Diare		Never had Diare		n	%		
	n	%	n	%				
Had not got EB	34	58	25	42	59	100	0,003	4,663 (1,737-12,520)
Had Got EB	7	23	24	77	31	100		
Total	41	46	49	54	90	100		

The results showed a significant correlation (pvalue (0.003 <math>< \alpha</math> 0.05) between the history of exclusive breastfeeding and the incidence of diarrhea in toddlers, with POR = 4.663; 95% CI = 1.737-12.520 means that toddlers who had not got exclusive breastfeed- ing were at risk 4 times to had diarrhea than toddlers who had got exclusive breastfeed

TABLE 3: Correlation between weighing toddler and incidence of diarrhea.

Weighing toddler	Incidence of Diarrhea				Total		P Value	POR 95%CI
	Had Diare		Never had Diare		n	%		
	n	%	n	%				
Had not weigh	22	43	29	57	39	100	0,754	0,799 (0,346-1,845)
Had Weigh	19	49	20	51	51	100		
Total	41	46	49	54	90	100		

3.2.2. Correlation between weighing toddler and incidence of diarrhea

The results showed no significant correlation (p value $0.754 > \alpha 0.05$), between weighing toddlers with the incidence of diarrhea, with $POR = 0.799$; $95\% CI = 0.346-1.845$.

3.2.3. Correlation use of clean water and incidence of diarrhea

TABLE 4: Correlation use of clean water and incidence of diarrhea.

Use of clean water	Incidence of Diarrhea				Total		P Value	POR 95%CI
	Had Diare		Never had Diare		n	%		
	n	%	n	%				
Had not eligible	28	62	17	38	45	100	0,003	4,054 (1,678-9,798)
Had Eligible	13	29	32	71	45	100		
Total	41	46	49	54	90	100		

The results showed there was a significant correlation (p value $0.003 < \alpha 0.05$) between use of clean water and the incidence of diarrhea with $POR = 4.054$; $95\% CI = 1,678-9,798$ means that respondents who had not eligible clean water are at risk 4 times to had diarrhea than those who had eligible clean water.

3.2.4. Correlation between hand washing habits and incidence of diarrhea

The results showed that there was a significant correlation (p value $0.005 < \alpha 0.05$) between hand washing habits and the incidence of diarrhea in toddlers with $POR = 4.966$; $95\% CI = 1.661-14.846$, means that respondents who had not good habit of washing their hands are at risk 4 times more likely to have diarrhea than respondents who had good habit of hand washing.

TABLE 5: Correlation between hand washing habits and incidence of diarrhea.

Hand washing habits	Diarrhea				Total		P Value	POR 95%CI
	Had Diare		Never had Diare		n	%		
	n	%	n	%				
Had not good	36	55	29	45	65	100	0,005	4.966 (1.661-14.846)
Had Good	5	20	20	80	25	100		
Total	41	46	46	54	90	100		

3.2.5. Correlation use of healthy latrines with incidence of diarrhea

TABLE 6: Correlation use of healthy latrines with incidence of diarrhea.

Use of healthy latrines	Incidence of diarrhea				Total		P Value	POR 95%CI
	Had Diare		Never had Diare		n	%		
	n	%	n	%				
Had not good	31	60	21	40	52	100	0,004	4,113 (1.664-10.269)
Had Good	10	26	28	74	38	100		
Total	41	46	49	54	90	100		

The results showed that there was a significant correlation (p value 0.004 < α 0.05) between the use of healthy latrines and the incidence of diarrhea, with POR = 4.133; 95% CI = 1,664 - 10,269 means that respondents who had not use healthy latrines are at risk 4 times more likely to be affected by diarrhea than respondents who had good use healthy latrines.

4. Discussion

4.1. Correlation the history of exclusive breastfeeding with the incident of diarrhea

From the results of research to mothers who have toddlers, there is a significant correlation between the history of exclusive breastfeeding with incidence of diarrhea. This research is in line with the research that there is a significant correlation between the history of exclusive breastfeeding and the incidence of diarrhea [2]. The prevalence of diarrhea in toddlers who had not got exclusive breastfeeding (64.0%) compared to who had got exclusive breastfeeding. The Ministry of Health states that full breastfeeding from the first 0-6 months of a baby’s life has a 4 times greater protection against diarrhea than exclusive breastfeeding accompanied by bottled milk [1]. Exclusive breastfeeding is the best food for babies because addition good composition, cheap and well maintained.

Exclusive breastfeeding is available in an ideal and balanced form to be digested and absorbed optimally by the baby. Therefore, until the age of 6 months it is recommended only to breastfeeding without additional food. Exclusive breastfeeding has immunologic prevention benefits and also provides protection against diarrhea. Breastfeeding during diarrhea reduces the negative effects on the growth and nutritional state of the baby and reduces the severity of diarrhea.

4.2. Correlation weighing toddlers with the incident of diarrhea

The results of the study showed that there was no significant relationship between weighing toddlers and the incidence of diarrhea. This research is in line with the research of that there is no significant correlation between weighing toddler every month with the incidence of diarrhea [2]. Integrated service post that is best known to the public. Integrated service post covers five priority programs, family planning, MCH, nutrition, immunization, and diarrhea prevention. Proven to have a large leverage on reducing the toddler's mortality rate. Activities at the integrated service post that are routinely carried out are weighing babies and toddlers. Monitoring of growth and development is monitored through Card to Health as a tool to monitor the growth of growth, not only assessing nutritional status but also evaluating the health status of infants and toddlers. In this study weighing infants regularly every month can be useful to obtain health information related to prevention of diarrhea in children under five.

Based on the results of the research above, the researcher assumed that there was no correlation between weighing of children under five and the incidence of diarrhea due to some respondents who did not weigh but did not experience diarrhea due to clean environmental conditions and far from the riverbank while for routine respondents weighing toddlers but affected by diarrhea because respondents lived around riverbanks that make toddlers experience a variety of unfavorable health conditions

4.3. Correlation the use of clean water with the incident of diarrhea

The results showed that there was a significant relationship between the use of clean water and the incidence of diarrhea. This research is in line with the research which states that there is a relationship between the use of clean water and the incidence of diarrhea. Water is one of the basic needs of human life, also plays a major role in the transmission of infectious diseases including diarrhea [2]. Water as a spread of

pathogenic microbes, a nest of insect spreaders. If the amount of clean water is insufficient, a person cannot clean himself well and water as a nest of temporary host disease [1]. The impact of water use with Local Water Company's facilities is that the incidence of diarrhea will be smaller than the use of well water, for respondents with the habit of cooking water before drinking the incidence of diarrhea is lower than those who do not cook water before drinking, while for groups whose water comes from wells that are less well from 10 meters from sources of pollution have a higher incidence of diarrhea. Affordable communities with truly clean water supply have a smaller risk of suffering from diarrhea compared to people who had not clean water. Communities can reduce the risk of diarrhea attacks by using clean water and protecting the water from contamination from the source to storage at home. The source of drinking water is not protected like a well, it must meet health requirements as household drinking water, so water must be protected from pollution. A good well must meet health requirements, namely the distance of wells with latrines, distance of wells with trash holes, sewerage and other sources of dirt than 10 meters.

4.4. Correlation the habit of hand wash with the incident of diarrhea

The results showed a significant relationship between hand washing habits and the incidence of diarrhea in infants. This research is in line with the research which states that there is a relationship between hand washing habits and the incidence of diarrhea [2]. Diarrhea is one of the diseases that is related to healthy behavior. In transmission like this, the hand plays an important role, because through unclean hands food or drink contaminated with germs enter the human body. Hand is the main carrier of microorganisms derived from feces.

4.5. Correlation the use of health latrine with the incident of diarrhea

The results showed that there was a significant relationship between the use of healthy latrines and the incidence of diarrhea. This research is in line with the research which states that there is a relationship between the use of latrines and the incidence of diarrhea [2]. Households have access to proper sanitation if the sanitation facilities used meet health requirements, including equipped with a goose neck, septic tank / Wastewater Treatment System, which is used alone or together. The use of good latrines is that there are no stools left (attached) around the toilet, as well as regular cleaning

and brushing of toilets. Whereas the characteristics of good latrines can be used by all family members, a distance of at least 10 meters from water sources and settlements, fecal tendon storage of at least 1 meter, and does not allow flies or insects to land on feces (with goose neck system). Families who do not have latrines must make latrines and all family members must defecate in the toilet not in any place. Fecal disposal is an important part of health. Improper disposal of feces can directly affect the incidence of certain diseases that are transmitted through feces, namely diarrhea

5. Conclusion

Based on the results of the study, it can be concluded that there is a significant relationship between the history of exclusive breastfeeding, the use of clean water, hand washing habits, the use of latrines, with the incidence of diarrhea in infants. But there is no significant relationship between weighing toddlers with the incidence of diarrhea in toddlers.

It is hoped that the community will pay more attention to clean and healthy behavior, especially in the household environment and increase prevention measures for diarrhea by providing exclusive breastfeeding to infants and toddlers, using clean water, healthy latrines and getting used to washing hands before eating to avoid the diseases.

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Conflict of Interest

The authors have no conflict of interest to declare.

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