Maternal Behavior Factors Related to the Incidence of Diarrhoea in Infants in RW 06 Pamulang District, South Tangerang in 2018

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Abstract. Diarrhoea is a condition of defecation (BAB) more than three times a day with watery consistency. Diarrhoea is a very dangerous disease that often attacks children or infants, and can cause death. Pamulang Primary Health Care data in 2017 has occurred as many as 6,863 cases of diarrhoea and in the West Pamulang District as many as 911 cases. Throughout the beginning of 2018 there were 74 diarrhoea cases. This study used a cross sectional study design with a population of 200 infants and a sample of 102 respondents with random sampling cluster data collection techniques. Data analysis performed was univariate analysis and bivariate analysis using the chi-square test. The results showed that 77.5% of children under five experienced diarrhoea. Bivariate analysis results obtained by hand washing behavior with a P value of 0.001 and the use of milk bottles with a P value of 0.021 had a significant relationship with the incidence of diarrhoea in infants. It is expected that the community maintains the cleanliness of their home environment and keeps themselves clean by washing their hands before and after activities and always maintaining the cleanliness of milk bottles that children will use.

Keywords: *Maternal Behavior, Diarrhoea, Infants*

1. INTRODUCTION

Diarrhoeal disease is still a global problem with a high degree of morbidity and mortality in various countries, especially in developing countries, and also as one of the main causes of high rates of morbidity and mortality of children in the world [1]. In general, it is estimated that more than 10 million children aged less than 5 years die each year in the world where around 20% die from diarrhoea infections [2]. In developing countries, children under five experience an average of 3-4 diarrhoea occurrences per year but in some places occur more than 9 incidents of diarrhoea per year or nearly 15-20% of a child's life time is spent on diarrhoea [3].

Diarrhoea is a disease that is a public health problem in Indonesia. This is due to the high morbidity and mortality. Based on the results of a morbidity survey by the Diarrhoea Sub Directorate, the Ministry of Health in 2000 to 2010 showed a tendency to increase the incidence of diarrhoea. In 2000 the incidence of diarrhoea amounted to 301/1000 population, in 2003 the

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incidence of diarrhoea rose to 374/1000 population, in 2006 the diarrhoea increased again to 423/1000 population and in 2010 the incidence of diarrhoea became 411/1000 population [4].

Based on previous studies that have been done, it is known that many factors influence the incidence in infants. One factor that causes diarrhoea is environmental factors [5]. Based on the results of research conducted by Elizabeth, et al (2014), stated that there is a significant relationship between environmental factors such as hygiene practice of mothers incidence events in infants with a p value 0,000 [6]. Meanwhile, in research conducted by Taosu and Azizah in Bena Village, East Nusa Tenggara, it can be seen that behavioral factors such as washing hands after defecation affect the incidence of diarrhoea where as many as 98% of respondents do not wash their hands after defecating and have diarrhoea, and washing behavior and sterilizing milk bottles have an effect on the occurrence of diarrhoea in infants where as many as 68.7% of respondents do not wash and sterilize milk bottles for infants and cause diarrhoea in infants in Bena Village [7].

According to data from the Banten Provincial Health Office in 2011, there were 346,513 cases of diarrhoea. Diarrhoea is a disease that often causes death due to lack of fluids if it is not immediately treated quickly and correctly. In Banten Province diarrhoea cases in 2011 reached 971,269 cases while in 2010 it reached 816,802 cases. The estimated number of diarrhoea cases in 2012 was 534,142 cases [8].

South Tangerang City is one of the 8 cities or regencies in Banten province. Data from the South Tangerang City Health Office states that diarrhoea cases in South Tangerang City in 2016 were 34,728 cases. Of the 7 sub-districts in South Tangerang City, Pamulang District ranks the 2nd most cases of diarrhoea, which is 6,863 cases [8].

According to data from the Pamulang Public Health Center, 911 cases of diarrhoea in infants and infants in 2017 in the District of Pamulang Barat. Throughout the beginning of 2018 from January to March it has been recorded in the District Pamulang Barat there were 74 cases of diarrhoea in infants and infants [9].

2. RESEARCH METHODS

This research used quantitative research type, with analytic observational study with cross sectional study design. This research was conducted in RW 06 Pamulang Barat Subdistrict, Pamulang Subdistrict, South Tangerang in May-June 2018. The population in this study were all infants in RW 06 environment with 200 infants and the samples obtained were 102 respondents using cluster random sampling data collection techniques. The variables studied consisted of the dependent and independent variables, the dependent variable was the incidence of diarrhoea in infants while the independent variable was the mother's behavior consisting of water cooking behavior, hand washing behavior and the use of milk bottles. Data analysis performed was univariate analysis and bivariate analysis using the chi-square test.

3. RESULTS AND DISCUSSION

3.1 UNIVARIATE ANALYSIS

Based on table 1 from the analysis of the description of the incidence of diarrhoea in infants, 79 infants (77.5%) had diarrhoea and 23 infants (22.5%) did not have diarrhoea. From the table it can be seen that the presentation of infants who have diarrhoea more than infants who do not have

diarrhoea. It is known that as many as 53 mothers (52%) have bad water cooking behavior, more than respondents who have good water cooking behavior that is equal to 49 respondents (48%). Then in the hand washing behavior variable, it is known that as many as 65 respondents (63.7%) have bad hand washing behavior, more than respondents who have good hand washing behavior that is equal to 37 respondents (36.3%). In table 1 it can also be seen that the variables of milk bottle usage as many as 69 respondents (67.6%) have bad milk bottle usage behavior, more than those who have good milk bottle use behavior that is equal to 33 respondents (32.4%).

Table 1. Results of Univariate Analysis of Respondents Distribution According to the Incidence of Diarrhoea, Drinking Water Cooking Behavior, Hand Washing Behavior, and Use of Milk Bottles

No.	Variables	Category	Total	Percentage
1	Incidence of Diarrhoea	Diarrhoea	79	77,5
		No Diarrhoea	23	22,5
2	Drinking Water Cooking Behaviour	Bad	53	52,0
		Good	49	48,0
3	Hand Washing Behavior	Bad	65	63,7
		Good	37	36,3
4	Use of Milk Bottles	Bad	69	67,6
		Good	33	32,4

3.2 BIVARIATE ANALYSIS

Based on the results of bivariate analysis it is known that infants suffering from diarrhoea from mothers who behave in poor cooking water are 32 respondents (71.1%) lower than infants who have diarrhoea from mothers who behave in good cooking water, namely, as many as 47 respondents (82, 5%). Statistical test results showed no relationship between the behavior of cooking water with the incidence of diarrhoea in infants with a p value of 0.173 (p value> 0.05).

Based on table 2 it can also be seen that infants suffering from diarrhoea from mothers who behave with bad hand washing are 57 respondents (87.7%) higher than infants who have diarrhoea from mothers who behave with good hand washing ie, as many as 22 respondents (59 , 5%). Statistical test results show that there is a significant relationship between hand washing behavior and the incidence of diarrhoea in infants with a p value of 0.001 (p value <0.05), with an OR value of 0.206, which means that respondents who have bad hand washing behavior have a 0.206 chance times are more likely to experience diarrhoea in their infants compared to respondents who behave well to wash their hands.

Another variable that was also analyzed bivariately was the use of milk bottles. It was found that infants suffering from diarrhoea from mothers who behaved poorly in the use of milk bottles were 58 respondents (84.1%) higher than infants who experienced diarrhoea from mothers who behaved well. In the use of milk bottles, there were 21 respondents (63.6%).

Statistical test results show that there is a significant relationship between hand washing behavior and the incidence of diarrhoea in children under five years old with a p value of 0.021 (p value <0.05), with an OR value of 0.332, which means that respondents who have bad milk bottle

use behaviors have a chance 0.332 times more likely to experience diarrhoea in their infants than respondents who behave well.

Table 2. Results of Bivariate Analysis of Correlation between the Incidence of Diarrhoea and Drinking Water Cooking Behavior, Hand Washing Behavior, and Use of Milk Bottles

Variabel	Incidence of Diarrhoea				P Value
	Diarrhoea		No Diarrhoea		
	n	%	n	%	
Drinking Water Cooking Behavior					
Bad	32	71,1	13	28,9	**0,173**
Good	47	82,5	10	17,5	
Hand Washing Behavior					
Bad	57	87,7	8	12,3	**0,001**
Good	22	59,5	15	40,5	
Use of Milk Bottles					
Bad	58	84,1	11	15,9	**0,021**
Good	21	63,6	12	36,4	

Based on the results of univariate analysis as many as 53 respondents (52%) had bad cooking water behavior, more than respondents who had good cooking water behavior which was 49 respondents (48%). Based on bivariate analysis, a P value of 0.173 was obtained, indicating that there was no significant relationship between the behavior of cooking water with the incidence of diarrhoea in infants.

The results of this study are not in line with research conducted by Samwel et al. (2014) which shows that there is meaningful relationship between household drinking water treatment and the incidence of diarrhoea in infants. They stated that households which did not use treated water had higher odds of contracting childhood diarrhoea than those which treated their drinking water [10]. Water for drinking must be treated first and the water container must be clean and closed. Untreated water can cause disease [11]. One form of drinking water treatment in households that is simple and is often used is by cooking. Household drinking water treatment can reduce the incidence and death rates caused by water-borne diseases such as diarrhoea [12].

From the results of interviews and observations it is known that the majority of respondents use refill water (gallons) for their daily drinking needs so that respondents no longer cook water for their drinking needs. However, it is better to keep boiling the water before consuming it to make sure that germs and bacteria die and the water becomes sterile before consumption.

Based on the results of univariate analysis as many as 65 respondents (63.7%) had bad hand washing behaviors, more than respondents who had good hand washing behaviors, amounting to 37 respondents (36.3%). Based on the results of bivariate analysis shows that there is a significant relationship between hand washing behavior with the incidence of diarrhoea in infants with a P value of 0.001. With an OR value of 0.206 which means that respondents who have bad hand washing behavior have a 0.206 times greater chance of experiencing diarrhoea in their infants compared to respondents who behave properly to wash their hands.

The results of this study are in line with research conducted by Mengistie et al (2013) conducted in Rural Ethiopia and also get results that there is a relationship between hand washing behavior with the incidence of diarrhoea in infants [13]. Habits associated with personal hygiene that are important in transmitting diarrhoeal germs are hand washing. Hands that contain disease germs if not cleaned properly can be a medium for disease germs to enter the human body, either through direct contact with the mouth or contact with food and drink. Lack of individual awareness to maintain personal hygiene such as washing hands can be one of the causes of the widespread spread of diarrhoea cases. Handwashing is one of the behaviors that can avoid the occurrence of diarrhoeal disease [14].

From the results of interviews with respondents, many of the respondents who have implemented hand washing behavior before carrying out activities. However, many respondents only wash their hands if they are really dirty or feel they must wash their hands and respondents only wash their hands using water only without using hand washing soap. Because the respondents considered washing their hands using water alone was considered quite clean [16].

Based on the results of univariate analysis, it is known that as many as 69 respondents (67.6%) have bad milk bottle usage behavior, more than respondents who have good milk bottle usage behavior that is equal to 33 respondents (32.4%). From the results of bivariate analysis shows that there is a significant relationship between the use of milk bottles with the incidence of diarrhoea in infants with a P value of 0.021. With an OR value of 0.332, which means that respondents who have bad milk bottle use behaviors have a 0.332 times greater chance of experiencing diarrhoea in their infants compared to respondents who behave well.

This study is in line with research conducted by Ogbo et al in 2018 which found that there was a relationship between milk bottle use and the incidence of diarrhoea in infants. They stated that Children who were bottle-fed had a higher prevalence of diarrhoea compared to those who were not bottle-fed [15].

4. CONCLUSION

Univariate analysis test results that most affected by the incidence of diarrhoea in infants there are 79 infants (77.5%), poor cooking water behavior as much as 52.0% of respondents, bad hand washing behavior as much as 63.7% of respondents, use of bottles bad milk as much as 67.6% of respondents. The results of bivariate analysis that have been carried out can be concluded that of the 3 (three) variables tested, there are 2 (two) variables that have a significant relationship, namely, the variable of hand washing behavior with a p value of 0.001 ($p < 0.05$), and variable use of milk bottles with a p value of 0.021 ($p < 0.05$). Relevant institutions such as Primary Health Care need to provide more information on PHBS especially washing hands using soap and running water before and after conducting activities, the importance of water treatment before consumption and the importance of good milk bottle management.

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