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Relationship between Mothers' Knowledge with Diarrhea Prevention in Toddlers

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Abstract— Diarrhea is a condition that is not normal feces expenditure or unusual, characterized by an increase in volume, thinned, and the frequency is more than three times a day. The prevalence of diarrhea diseases is increasing, the total cases of diarrhea diseases listed in the Work Area Air Lais sub-district Community Health centers Padang Jaya in 2014 reached 230 cases. This happens because the prevention of diarrhea diseases has not been done optimally by Padang Jaya sub-district community. The purpose of this research is to determine the relationship between knowledge with prevention of diarrhea disease in toddlers. This research is a quantitative research with *cross sectional* design. The sample in this study were mothers with children under five by purposive sampling technique. The participants of this research was 95 mothers and statistical analysis using *chi square*. Results of the analysis found correlation between maternal knowledge with efforts to prevent diarrhea disease in toddlers (p value = 0.000). Expected health workers can improve the promotion for better health and increasing efforts to prevent diarrhea diseases that can be carried by mothers as a prevention of diarrhea disease in Toddlers.

Keywords— Knowledge; prevention of diarrhea disease

I. INTRODUCTION

According to data from the World Health Organization or WHO, diarrhea is the first number cause of infant mortality in the world, while diarrhea is the second number killer of children under five after acute respiratory infections. UNICEF (United Nations Agency for Children's Affairs) estimates that every 30 seconds there is one child who dies of diarrhea. According to WHO, diarrheal disease in Indonesia as much as 15,382 or 2.5% of the total population [1].

In 2000 to 2010 a morbidity survey conducted by the Department of Health's Diarrhea Sub-Department found that the incidence of diarrhea increased. In 2000 the diarrhea incident was 301/1000 inhabitants, in 2003 the incidence of diarrhea rose to 374/1000 population, in 2006 the incidence of diarrhea rose to 423/1000 population [2], with a total of 10,980 sufferers and 277 deaths (CFR, 2, 52%).

In Indonesia there are reported to be 1.6 to 2 diarrheal events per year in infants, so overall the estimated incidence of diarrhea in infants ranges between 40 million a year with deaths of 200,000-400,000 children under five. In a 2000 survey conducted by the Directorate General of P2MPL of the Ministry of Health in 10 provinces, it was found that from 18,000 households surveyed a sample of 13,440 toddlers was taken, and the incidence of diarrhea in infants was 1.3 episodes of diarrhea per year [3].

Based on data from the Bengkulu Provincial Health Office in 2011 the incidence of diarrhea in Bengkulu Province was 16,634, in 2012 as many as 18,660 people. Of the 9 districts and 1 municipality in Bengkulu Province in 2012, North Bengkulu Regency was one of the biggest contributors to diarrhea cases, which was 5,085 cases (43.7%). Furthermore, according to the North Bengkulu Regency Health Service Profile, in 2011 the incidence of diarrhea in infants was 2,021 cases, whereas in 2012 the incidence of diarrhea in infants was 5,085 cases. In 2014, the incidence of diarrhea in Bengkulu Utara Regency was ranked 6th out of 10 diseases with the largest incidence. Of the 47,077 cases of 10 most diseases, the incidence of diarrhea was found to be 4,118 events [4]. And according to the Air Lais Health Center Profile, in 2014, the incidence of diarrheal diseases in the Air Lais Health Center ranked 9 out of 10 most diseases. The incidence of diarrhea was found in 230 cases [5].

Many factors are cause diarrhea in infants and toddlers in Indonesia. One of the risk factors that is often researched is the factors that directly include the level of knowledge, hand washing behavior, sanitary hygiene, latrines, sewerage (SPAL), water bacteriological quality, home conditions. Handwashing with soap is the most inexpensive and effective health intervention compared to the results of other health interventions in reducing the risk of diarrheal transmission, especially in infants and toddlers [6].

Prevention of diarrheal disease is an effort to stop the spread of germs that cause diarrhea. Various efforts that have proven effective are exclusive breastfeeding to infants aged 0-6 months, avoiding the use of bottled milk, improving the preparation and storage of complementary foods (to reduce exposure to breast milk to bacteria and bacterial breeding), using clean water for drinking. The high mortality and morbidity of diarrhea is caused by the quality of drinking water sources and how to defecate, wash hands thoroughly after defecation and after defecating the baby and before preparing food or before eating, disposing of faeces (including baby faeces) properly [7].

According to the records of the Air Lais Puskesmas Profile in 2014 the high number of diarrhea cases in the working area of the Air Lais Puskesmas in the Padang Jaya District was due to conditions of low public knowledge, topography and climate change and other possibilities, so the diarrheal disease prevention program must still be further improved.

II. METHOD

This research is a quantitative study using analytical research design and cross sectional design to determine the relationship of maternal knowledge with prevention of diarrheal diseases.

Data collection was carried out in the Air Lais Community Health Center in Padang Jaya District, North Bengkulu in May 2015 until June 2015. The population in this study were all mothers who have children under five in the Work Area of Air Lais Community Health Center in Padang Jaya District, North Bengkulu. The sample in this study were mothers who had children under five in the Work Area of Air Lais Health Center as many as 95 people who were selected purposively. The inclusion criteria used were: (1) Mothers who have children under five; (2) Willing to participate in research; (3) Able to communicate actively.

The research variables consisted of independent variables, namely (1) mother's knowledge about the definition, epidemiology of the disease, symptoms, ways of transmission of the disease, type and classification, factors that influence the frequency of occurrence of diarrhea in toddlers, and prevention of diarrheal disease. The dependent variable is prevention of diarrhea.

The data analysis technique used is the chi square method which aims to test whether the variable of mother's knowledge is related to efforts to prevent diarrhea in toddlers.

III. RESULTS

Univariate analysis describes the frequency distribution of the variables studied, both the independent variable and the dependent variable. This analysis presents the characteristics of respondents such as age, education and occupation of mothers.

Distribution of Respondent Characteristics

Table 1. Distribution of Respondents by Characteristics of Respondents

	Frequency	%
Age (n=95)		
20-30	49	51,6 %
31-40	46	48,4 %
Education (n=95)		
No school	13	13,7 %
Elementary school	17	17,9 %
Middle School	34	35,8 %
High school	22	23,2 %
College	9	9,5 %
Job (n=95)		
Farmers	43	45,3 %
Merchant	18	18,9 %
Private	25	26,3 %
Civil servants	9	9,5 %

Based on Table 1, we get a picture of frequency distribution based on age. Respondents with the age group 20-30 years are the most frequent or around 49 respondents (51.6%) and 46 people from the 30-40 year age group (48.4%).

Description of the distribution of respondents based on education. Respondents with junior high school education were ranked first with a frequency of 34 people or 35.8%, followed by high school with 23.2%, elementary school with 17.9%, no school with 13.7% and college with 9.5%.

Based on Table 1, of the 95 respondents 43 people (45.3%) of them were farmers, followed by the private sector 25 people (26.3%), traders as many as 18 people (18.9%) and civil servants as many as 9 people (9.5%).

Knowledge

Knowledge in this study was measured by 13 question items with the distribution of answers attached. Based on the recapitulation of respondents' answers to the 13 questions about knowledge, knowledge is categorized into 3 categories, which is good if the respondent's score $\geq 76\%$ answers correct; enough if the respondent scores between 56-75% correct answers; bad if the respondent's score $< 55\%$ answers correct.

Table 2. Knowledge Categories

No	Knowledge	f	%
1	Well	34	35,8%
2	Enough	45	47,4%
3	Bad	16	16,8%
Total		95	100%

Source: 2015 Research Results (data processed)

Table 2 shows that of the 95 research respondents, 34 people (35.8%) had good knowledge about diarrhea prevention efforts, 45 people (47.4%) had sufficient knowledge and 16 people (16.8%) had bad knowledge. Thus, the majority of respondents have sufficient knowledge about diarrhea prevention efforts, as many as 45 people (47.4%).

Prevention of Diarrhea

Efforts to prevent diarrhea are measured by 10 question items with the following frequency distributions:

Table 3. Efforts to Prevent Diarrhea

No	Efforts to Prevent Diarrhea	f	%
1	Well	37	38,9%
2	Enough	50	52,6%
3	Bad	8	8,4%
Total		95	100%

Source: 2015 Research Results (data processed)

Table 3 shows that of the 95 research respondents, 37 people (38.9%) made good diarrhea prevention efforts, 50 people (52.6%) had enough to prevent diarrhea, and 8 people (8.4%) did not try to prevent diarrhea. Thus, the majority of respondents simply tried to prevent diarrhea, namely 50 people (52.6%).

Bivariate Analysis

Bivariate analysis was performed to identify the relationship between the independent variable and the dependent variable (diarrhea prevention efforts)

Relationship of Knowledge with Diarrhea Prevention Efforts

The relationship between knowledge and efforts to prevent diarrhea is done using the chi-square test at a 95% confidence level ($p < 0.05$) which shows the following results:

Table 4. Frequency Distribution based on Mother's Knowledge

	Diarrhea Prevention Efforts					
	Well		Enough		Bad	
	f	%	f	%	f	%
Well	18	18,9	16	16,8	0	0
Enough	16	16,8	29	30,5	0	0
Bad	3	3,2	5	5,3	8	8,4
Total	37	38,9	50	52,6	8	8,4

Table 4 shows that respondents who had good knowledge were 34 respondents (35.8%) there were 18 respondents (18.9%) had good diarrhea prevention efforts and 16 respondents (16.8%) had diarrhea prevention efforts which were enough. Respondents who have sufficient knowledge of 45 respondents (47.4%) there are 16 respondents (16.8%) have good diarrhea prevention efforts and 29 respondents (30.5%) have enough diarrhea prevention efforts. Respondents who have bad knowledge as many as 16 (16.8%) there are 3 respondents (3.2%) have good diarrhea prevention efforts, and 5 respondents (5.3%) have enough diarrhea prevention efforts, and 8 respondents (8.4%) have bad diarrhea prevention efforts[5].

Chi square analysis statistical test results obtained p value = 0,000, and χ arithmetic = 45,802. Where the value of $p = 0,000 < 0.05$ and χ arithmetic 45.802 > χ table which means that H_0 is rejected. Thus it can be concluded that there is a meaningful relationship between mother's knowledge and efforts to prevent diarrhea in toddlers.

IV. DISCUSSION

This study is in line with the research of Wulansari (2008) which concluded that there is a significant relationship between behavioral factors including knowledge, attitudes and actions of mothers with the incidence of diarrhea in infants in Batujajar Health Center, West Bandung Regency [8].

According to Notoatmodjo (2007), the knowledge a person has will be influenced by several factors including: the experience gained from what he has experienced himself and the experience of others he knows. Socio-culture, this culture is formed in a long time as a result of the life of a community together, beliefs can be obtained from generation to generation without any proof or obtained from the experience they have and proven true, print media, as well as electronic and books

are facilities information sources that can enhance community knowledge [9].

Based on the analysis of the relationship between mother's knowledge and diarrhea prevention efforts in infants in the Air Lais Community Health Center in Padang Jaya District, it can be concluded in accordance with the theory and related research that respondents with sufficient knowledge have adequate diarrhea prevention measures as well, this sufficient knowledge obtained from print and electronic media and the experience of the closest people who have experienced diarrhea disease in their children, and know it. The still lack of participation of mothers in attending counseling events about diarrhea disease, because many of them work in the garden for daily needs[5].

Based on the results of research and relevant theories above, the authors assume that there is a relationship between the results of research with supporting theories about the relationship of maternal knowledge with diarrhea prevention efforts in toddlers[3].

CONCLUSIONS AND SUGGESTIONS

Conclusion

Based on the results of research and discussion conducted regarding the relationship of knowledge and attitudes of mothers with diarrhea prevention efforts in infants in the Work Area of Air Lais Health Center, Padang Jaya District, North Bengkulu in 2015, it can be concluded that there is a significant relationship between maternal knowledge and prevention of diarrhea diseases in infants in the Work Area of Air Lais Health Center, Padang Jaya District, North Bengkulu. The better the respondent's knowledge, the better the disease prevention effort, while the lower the respondent's knowledge, the more likely it is to have less diarrhea prevention efforts.

SUGGESTION

Considering the results of this study illustrate the relationship between mother's knowledge with prevention of diarrhea, the following suggestions are delivered:

1. It is hoped that the people of Padang Jaya Subdistrict should increase their knowledge of diarrhea diseases and preventive measures to reduce the incidence of diarrhea by attending counseling from health workers, reading books and the mass media.
2. It is hoped that the Air Lais Health Center can be more intensified by counseling, and briefing on diarrhea diseases and prevention efforts.
3. To other researchers it is recommended for further researchers to increase the number of respondents and increase the number of variables studied so that they can produce more accurate results.

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