

Factors Associated with Diarrhea in Toddlers 1-5 Years Old in the Work Area of Pamatang Raya Health Center Simalungun Regency in 2018

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ABSTRACT**Keywords:**

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Diarrhea is a condition where the frequency of bowel movements is more than 4 (four) times in infants and more than 3 (three) times in children. occurs as a result of a person's lack of information or knowledge. This research was conducted in the Pamatang Raya Public Health Center, Simalungun Regency from August to September 2018, a sample size of 71 people using quantitative methods that are analytic through a cross-sectional approach. Data collection using secondary data was analyzed using the bivariate chi-square test. The results showed that in the good knowledge category as many as 15 people (21.1%), sufficient knowledge 26 people (36.6), less knowledge 30 people (42.3), negative attitudes as many as 47 people (66.2%), positive attitudes as many as 24 (33.4), good mother behavior as many as 26 people (36.6), less behavior as many as 30 people (42.3%). The conclusion of the study is that there is a relationship between knowledge, attitudes, and behavior of mothers on diarrheal diseases in toddlers at Pamatang Raya Public Health Center.

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1. Introduction

According to data from the World Health Organization (WHO) in 2013, diarrhea is the second disease. Most people with diarrhea who die due to dehydration or loss of fluids in large quantities. Diarrhea is one of the health problems in developing countries, especially in Indonesia, both in rural and urban areas. This disease is endemic which often appears as an Extraordinary Event (KLB). Data from the Southeast Sulawesi Provincial Health Office shows that in 2012 the prevalence of diarrheal disease in Southeast Sulawesi was 4,182 per 100,000 population, and in 2014 it was 1,753 per 100,000 population. Diarrhea is still a public health problem in Southeast Sulawesi, which causes morbidity and mortality for children under five

In the world there are 1.7 billion cases of diarrhea that occur every year. , the number of cases of diarrhea sufferers was 49,898 cases. The majority are dominated by the age of under 1 year of around 700 toddlers, ages 1-4 years 1175 toddlers and ages over 5 years 1728 toddlers (Dinkes, 2010). The incidence of diarrhea in children under five in Indonesia is 6.7%. Based on population characteristics, the under-five age group is the group with the highest prevalence of diarrhea with a prevalence of 9.2% and 12.2% in the 1-4 year age group (Riskesdas, 2013).

In the last ten years the number of diarrheal diseases has always fluctuated. In 2012 (24,525 cases); 2013 (18,982 cases), and in 2014 there were 20,470 cases of diarrheal disease or an increase of 7.84%. The number of cases is slightly above the estimated number of cases, namely 18,062 cases. Thus the diarrhea morbidity rate in 2014 was 24.25/1000 population, an increase compared to 2013 which was 22.78, but still lower than the previous 8 years, namely 29.41 (2012); 38.06 (2011); 54.73 (2010); 49.53 (2009); 47.45 (2008); 41.33 (2007) and 36.38 (2006). Of the number of cases found, 113.33% have been treated, the highest in the last 4 years was 106.45% (2013); 100% (2012); and 89.98% (2011). This figure exceeds the 2015 MSS indicator (100%). Trends in diarrheal disease in the last 8 years and the spread of Puskesmas in 2014 (Simalungun Profile 2014).

North Sumatra Province consists of 33 regencies and cities, one of which is Simalungun Regency.

Simalungun Regency has 33 sub-districts and 46 health centers. Pamatang Raya Health Center is one of the Puskesmas which has a working area of 20 (twenty) villages located on Jalan Raya. According to a survey from researchers there are 5 biggest diseases in the Pamatang Raya Health Center including: ARI (2734), High Blood Pressure Disease (969), Rheumatism (9805), DM (510) and Diarrhea (180). Patients with diarrheal disease at the Pamatang Raya Health Center in 2018 totaled 180 toddlers. Toddlers who died 15 toddlers and who lived 165 toddlers in 2018. Some behaviors cause enteric germs and can increase the risk of diarrhea,

2. Research Methods

2.1 Research design

This research method is analytic quantitative in nature, with an observational design through a cross-sectional approach in which the independent and dependent variables are asked at the same time to respondents in the Pamatang Raya Health Center Work Area Simalungun Regency in 2018.

2.2 Place and time

The place of this research was carried out in the Work Area of the Pamatang Raya Health Center, Simalungun Regency in 2018. The research was carried out in 2018.

2.3 Population, Sample, and Data Type

The population in this study were all mothers with toddlers 1-5 years old who were recorded in the Pamatang Raya work area in 2018 totaling 552 people. According to (Notoatmodjo, 2012), the sample is the object under study and is considered to represent the entire population. The sample in this study were 71 people. Therefore, the sample size can be determined using the Lemesshow formula (Hidayat, 2007) as follows:

$$Z2 \ 1a/2P \ (1-P) \ N$$

$$n = d2 \ (N-1) + Z2 \ 1a/2P \ (1-P)$$

Information:

N = desired sample size

N = Population Size

d2 = Desired degree of accuracy 5% (0.05)

P = Proportion of certain properties that are expected to occur in N (0.5)

$$Z2 \ 1a/2 = 1.96 \ \text{with} = 0.1 \ Z2 \ 1a/2P \ (1-P)N$$

$$n = d2 \ (N-1) + Z2 \ 1a/2P \ (1-P) \ 1,960.5 \ (1-0.5) \ 552 \ (0.05)^2 \ (552-1) + 1,960.5 \ (1-0.5) \ (0.98) \ (0.5) \ 552$$

$$n = (0.0025) \ (551) + (0.98) \ (0.5) \ 270.48$$

$$n = 1.8675$$

$$n = 71$$

Based on the calculation of the sample obtained at least in this study a sample of 71 people was taken.

2.4 Data Type

The type of data in this study is the type of categorical data (qualitative) which is the result of data from classification and classification. Data or categorical variables generally contain nominal and ordinal scale variables.

In this study, sampling was done by purposive sampling. Purposive sampling is based on certain considerations made by the researchers themselves, based on the characteristics and characteristics and the population, namely mothers who have toddlers who visit the Pamatang Raya Public Health Center. As for the considerations or criteria that the researcher himself did with the inclusion and exclusion criteria.

2.5 Inclusion Criteria

- a. Mothers who have toddlers who visit the Pamatang Raya health center.
- b. Can read and write
- c. Willing to be a respondent

2.6 Exclusion Criteria.

- a. Can't read and write
- b. Mother was not willing to be a respondent.

1.6 Data collection

a. Primary data

Primary data is data obtained directly from respondents, namely mothers who have toddlers 1-5

years who visit the Pamatang Raya Health Center, Simalungun Regency in 2018.

b. Secondary Data

Secondary data is data obtained from the health agency of the Pamatang Raya Health Center.

1.7 Research Instruments

The research instrument or measuring instrument that will be used for collecting this data is a questionnaire (a list of questions and statements). In this study, the research adopted a questionnaire from the research.

Elpi (2006).

1.8 Data processing

The primary data that has been collected is then processed with the SPSS system with the following data processing mechanisms:

a. Editing

Is the process of examining the survey results to examine whether there are respondents who do not complete the questionnaire.

b. coding

That is the activity of converting data in the form of letters into data in the form of numbers / numbers. For example, for the education variable, coding is 0 = low, 1 = high, the incidence of diarrhea is 0 = diarrhea and 1 = no diarrhea, the use of coding is to simplify data analysis and also speed up data entry.

c. Entry

Transfer is the coding of data from the questionnaire to the software. Data coding is done to provide specific responses to respondents' answers to facilitate the process of recording data.

d. Check data

That is the activity of checking errors before entering into the computer to see if the previous steps have been completed without errors.

e. Tabulating

That is the activity of describing respondents' answers in a certain way. Tabulations can also be used to create descriptive statistics for the variables studied or those that will be cross tabulated.

f. Cleaning

That is the process of checking consistency and missing treatment data, consistency checking includes checking data that is out of range, logically inconsistent, there are extra values, data with values from an unknown variable due to confusing respondents' answers.

1.9 Data analysis

Data analysis was carried out in stages which included univariate and bivariate analysis

a. Univariate Analysis

1) Univariate Analysis

Univariate analysis is to determine the frequency distribution entered in the frequency distribution table, to determine the percentage in this study the formula according to Icham (2008) is:

Information : p = percentage

F = number of frequencies

n = number of respondents

Then the researcher will calculate the frequency distribution and look for the presentation on each variable using the SPSS computer program.

b. Bivariate Analysis

Bivariate analysis was carried out to see the relationship between the independent variable and the dependent variable, using a statistical regression test, with the level of significance being:

1) H_a is accepted and H_o is rejected: if P value < 0.05 , it means that there is a relationship between the independent variable and the dependent variable.

2) H_a is rejected and H_o is accepted: if P value > 0.05 , it means that there is no relationship between the independent variable and the dependent variable.

3) Research Ethics

In carrying out the research, the author explains the standard code of ethics that applies in general, the research submits a letter of application to conduct research to the relevant institution. After obtaining a new permit, research is carried out by emphasizing ethical issues which include:

a. Confidentiality

This problem is an ethical issue to guarantee the confidentiality of research results, both information and other issues. All information that has been collected is guaranteed to be confidential by the researcher, only certain groups will be reported on the research results.

b. Informed Consent

It is an agreement sheet between the researcher and the prospective respondent of the researcher explaining the aims and objectives of the research. If the subject is willing to be studied, the researcher will not force and still respect his rights.

c. without name (anonymity)

To maintain the confidentiality of the subject's identity, the researcher will not include the respondent's name on the data collection sheet (questionnaire) which is examined by the respondent. The sheet is only given a number or code.

3. Results and Discussion

3.1 Overview of Research Sites

The location of this research was carried out at the Pamatang Raya Health Center Jln. Raya which is located in Raya Subdistrict, Simalungun Regency with a working area of 4655 meters Health Center and 165m Health Center building area. The Pamatang Raya Health Center has Ka room, Public Health Center, general poly room, card room, poly room, TB room, Pharmacy room, Laboratory room, Immunization room, KIA/KB room, Administration/TU room. The number of health workers at the Pamatang Raya Health Center is 38 people.

3.2 Univariate Analysis

Univariate analysis was used to see the frequency distribution of each variable, namely the characteristics of the factors associated with diarrheal disease in toddlers, namely: age, education, knowledge, behavior, attitudes of mothers who have toddlers at the Pamatang Raya Public Health Center, Raya District, Simalungun Regency.

a. Knowledge

Table 1
Frequency Distribution of Respondents Based on Mother's Knowledge on Diarrhea in Toddlers in the Work Area of the Pamatang Raya Health Center.

NO	Knowledge	Amount	%
1	Not enough	15	21.1
2	Enough	26	36.6
3	Well	30	42.3
Total		71	100

The table above shows that it was found that 30 respondents had good knowledge of diarrheal diseases, 26 respondents (36.6%) had sufficient knowledge, and 15 respondents (21.1%), who had less knowledge.

b. Attitude

Table 2
Frequency Distribution of Respondents Based on Mother's Attitude towards Diarrhea in Toddlers in the Work Area of the Pamatang Raya Health Center.

NO	Attitude	Amount	%
1	Negative	47	66.2
2	Positive	24	33.18
Total		71	100

From the table above Based on the mother's attitude, respondents who have a negative attitude are 47 (66.2%) people while those who have a positive attitude are 24 (33.18%) people.

c. Behavior

Table 3
Frequency Distribution of Respondents Based on Mother's Behavior Against Diarrhea in Toddlers in the Work Area of Pamatang Raya Health Center.

NO	Behavior	Amount	%
1	Well	32	45.1
2	Not enough	39	54.9
Total		71	100

Based on the table above, 32 respondents (.45.1%) have good behavior towards diarrheal diseases, and 39 (54.9%) respondents behave less.

Table 4
Frequency Distribution of Respondents Based on Diarrhea
To Toddlers In The Work Area Of The Pamatang Raya Health Center.

NO	Diarrheal diseases	Amount	%
1	Well	18	25.4
2	Not enough	53	74.6
Total		71	100

Based on the table above, 18 respondents (25.4%) had a good condition of diarrheal disease and 53 respondents (74.6%) had a poor condition of diarrheal disease.

3.3 Bivariate Analysis

Bivariate analysis is intended to see the relationship of each related variable which has an analysis result of $p < 0.05$.

a. Mother's Knowledge Relationship with diarrheal disease in toddlers in the work area of Pamatang Raya Public Health Center.

Based on the results of the study, the analysis of the relationship between mother's knowledge of diarrheal disease in children under five at the Pamatang Raya Public Health Center, Raya District, can be seen in the following table.

Table 5
The relationship between mother's knowledge of diarrheal disease in toddlers
in the working area of the Pamatang Raya Health Center.

Mother's knowledge	Diarrhea		Total		pValue
	f	%	f	%	
Well	15	21.1	15	100.0	0.02
Enough	26	36.6	26	100.0	
Not enough	30	42.3	30	100.0	
TOTAL	71	100	71	100.0	

Based on table 5 the distribution of the relationship between mother's knowledge and diarrheal disease in toddlers 1-5 Years of Work Area of the Pamatang Raya Public Health Center Simalungun Regency in 2018 the results were obtained from 15 (21.1) respondents who had good knowledge, 26 (36.6) respondents who had sufficient knowledge, and as many as 30 (42.3) respondents who have less knowledge,

Based on the results of the Chi-square statistical test, p value = $0.02 < (0.05)$. So it can be concluded that H_0 is accepted, which means that there is a relationship between mother's knowledge and diarrhea.

3.4 Relationship of Mother's Attitude to Diarrhea in Toddlers Diarrhea in the Work Area of Pamatang Raya Health Center

Based on the results of the study, the relationship between mothers' attitudes towards diarrheal disease in toddlers can be seen in the following table.

Table 6
Relationship of Mother's Attitude to Diarrhea in Toddlers
In the Working Area of the Pamatang Raya Health Center.

Mother's attitude	Diarrhea		Total		PV value
	F	%	f	%	
negative	47	66.2	47	66.2	0.04
Positive	24	33.18	24	33.18	
Total		100	71	100	

Based on table 6. above, the relationship between mothers' attitudes towards diarrheal disease in toddlers 1-5 Years of Work Area of the Pamatang Raya Health Center Simalungun Regency in 2018 was obtained, from 47 (66.2%) respondents who had a negative attitude, and 24 (33.18 %) respondents who have a positive attitude,\

Based on the results of the Chi-square statistical test, p value = $0.04 < (0.05)$. So it can be concluded that H_0 is accepted, which means that there is no relationship between mother's knowledge and diarrhea

3.5 Relationship between Mother's Behavior and Diarrhea on Toddlers in the Work Area of Pamatang Raya Health Center.

Based on the results of the research, the relationship between mother's behavior towards diarrheal disease in children under five can be seen in the following table:

Table 7

Mother's Behavior Against Diarrhea in Toddlers in the Work Area of Pamatang Raya Health Center.

mother's behavior	Diarrhea		F	Total %	pValue
	f	%			
Well	32	45.1	32	45.1	0.03
Not enough	39	54.9	39	54.9	
Total	71	100	71	100	

Table 7 above shows that of 32 (45.1%) respondents have good behavior towards diarrheal disease and 39 (54.9%) have poor behavior towards diarrheal disease.

Based on the results of statistical tests using the Chi Square test, it shows that p-value(0.03< (=0.05). So it can be concluded that H_a is accepted, which means that there is a relationship between mother's behavior towards diarrheal disease in toddlers in the work area of the Pamatang Raya Health Center.

3.6 Discussion

a. The Relationship of Mother's Knowledge to Diarrhea in Toddlers in the Work Area of the Pamatang Raya Health Center.

Based on table 5.5. The distribution of the relationship between mother's knowledge and diarrhea in toddlers 1-5 Years of Work Area of the Pamatang Raya Health Center Simalungun Regency in 2019 was obtained from 15 (21.1) respondents who had good knowledge, 26 (36.6) respondents who had sufficient knowledge, and 30 (42.3) respondents who have less knowledge. It can be concluded that mothers who have knowledge of more or less children experience diarrhea compared to mothers who have sufficient knowledge and good knowledge of mothers on diarrheal diseases.

Based on the results of the Chi-square statistical test, p value = 0.02<(0.05). So it can be concluded that H_a is accepted, which means that there is a relationship between mother's knowledge and diarrheal disease in toddlers (1-5) years.

According to Bloom, 2009 knowledge is knowing and understanding as well as the application of a person's ability to re-express what he knows in the form of evidence of answers either verbally or in writing, 2010). Knowledge is a very important dominant for the formation of one's actions, increasing knowledge can lead to changes in one's perception of habits, knowledge also forms one's habits and attitudes towards one thing. Behavior that is aware of knowledge is more lasting than behavior that is not aware of knowledge (Notoatmodjo, 2007).

b. Relationship of Mother's Attitude to Diarrhea in Toddlers in the Work Area of Pamatang Raya Health Center.

Based on table 5.6, the relationship between mothers' attitudes towards diarrheal disease in the Pamatang Raya Health Center Work Area Simalungun Regency in 2018 was obtained from 47 (66.2)% of respondents who had a negative attitude towards diarrheal disease, and 24 (33.18)% of respondents who have a positive attitude. It can be concluded that mothers who have a negative attitude have more toddlers experiencing diarrhea than mothers who have a positive attitude. Based on test results *Chi-square . statistics* obtained p value = 0.04<(0.05). So it can be concluded that H_a is accepted, which means that there is no relationship between mother's knowledge and diarrheal disease in toddlers (1-5) years.

According to Winkel (2007). *Siakp* is a tendency in the subject to accept or reject an object based on the assessment of the object as a valuable object, which plays a very important role in treating diarrhea because they are the ones who usually carry out dehydration, oral, provide food, recognize dehydration and in time seek treatment for toddlers with diarrhea.

According to Notoadmodjo, 2010 attitude is a reaction or response of someone who is still closed to a stimulus to an object. Attitudes clearly show a reaction to the suitability of reactions to certain stimuli in everyday life, which is an emotional reaction to social stimuli. This has an effect on what actions a mother takes when dealing with toddler health problems, in this case the knowledge of mothers who have toddlers can understand the prevention of diarrheal diseases in toddlers.

c. Relationship of Mother's Behavior to Diarrhea in Toddlers in the Work Area of Pamatang Raya Health Center.

Based on table 5.7. above the relationship between mother's behavior towards diarrheal disease in toddlers 1-5 years of age in the Pamatang Raya Public Health Center, Simalungun Regency in 2018, the results obtained, from 32 (45.1%) respondents who had good behavior towards mothers whose toddlers had diarrhea, and 39 (54, 9%) respondents who have less behavior towards mothers who have toddlers who have diarrhea. It can be concluded that more maternal behavior is less than good mother behavior in toddlers (1-5) years.

Based on the results of statistical tests using the Chi Square test, it shows that p-value(0.03< (=0.05). So it can be concluded that H_a is accepted, which means that there is a relationship between mother's behavior towards diarrheal disease in toddlers in the work area of the Pamatang Raya Health Center.

4. Conclusion

Based on the results of research that has been carried out by researchers, it can be concluded that there is a relationship between mother's knowledge of diarrheal disease in toddlers aged 1-5 years at Pamatang Raya Health Center, Raya District, Simalungun Regency. Based on the results of the Chi-square statistical test, p value = $0.02 < (0.05)$. So it can be concluded that H_a is accepted, which means that there is a relationship between mother's knowledge and diarrheal disease in toddlers (1-5) years in the Pamatang Raya Health Center Work Area, there is a relationship between mother's attitude towards diarrheal disease in toddlers aged 1-5 years at Pamatang Raya Health Center Raya District, Simalungun Regency. Based on the results of the Chi-square statistical test, p value = $0.04 < (0.05)$. So it can be concluded that H_a is accepted, which means that there is a relationship between mother's knowledge and diarrheal disease in toddlers (1-5) years in the Pamatang Raya Health Center Work Area and there is a relationship between mother's behavior towards diarrheal disease in toddlers aged 1-5 years at Pamatang Raya Public Health Center. Dolok Panribuan District, Simalungun Regency. Based on the results of the Chi-square statistical test, p value = $0.02 < (0.05)$. So it can be concluded that H_a is accepted, which means that there is a relationship between mother's behavior and diarrheal disease in toddlers (1-5) years in the Pamatang Raya Health Center Work Area.

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