

THE RELATIONSHIP OF THE AVAILABILITY AND USE OF CLEAN WATER AND LATRINE FACILITIES WITH THE INCIDENT OF DIARRHEA IN TODDLERS IN THE WORKING AREA OF IDI TUNONG PUSKESMAS EAST ACEH DISTRICT**Rahminsyah**

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ABSTRACT

Diarrhea is still one of the main causes of morbidity and death. Almost all regions in the world and all age groups are attacked by diarrhea, but most of those who are targeted by this disease are babies and toddlers. One of the environmental factors related to the occurrence of diarrhea is water and food. Water that can cause or transmit diarrheal disease is water that is contaminated by germs that cause diarrhea, namely food that is contaminated by various germs that come from soil, air, humans and vectors such as flies. The aim of this research is to determine the relationship between the availability and use of clean water facilities and latrines with the incidence of diarrhea in toddlers in the working area of the UPT Puskesmas Idi Tunong, East Aceh Regency in 2021. The design of this research is analytical with a cross sectional study approach with a sample size of 47 respondents using techniques Random Sampling. Data collection techniques use checklist sheets, questionnaires and observations. The results of the research showed that from 47 respondents (100%), a value of $P=0.000$ ($P<0.05$) was obtained, indicating that there was a relationship between the availability of clean water facilities and the incidence of diarrhea in toddlers, a value of $P=0.002$ ($P<0.05$) was obtained.) shows that there is a relationship between the availability of family toilets and the incidence of diarrhea in toddlers, obtained a value of $P=0.002$ ($P<0.05$) indicating that there is a relationship between the availability of family toilets and the incidence of diarrhea in toddlers and obtained a value of $P=0.000$ ($P<0.05$) shows that there is a relationship between the use of family latrines and the incidence of diarrhea in toddlers. It is hoped that health workers in the Idi Tunong Community Health Center UPT work area, East Aceh Regency will continue to provide information about the importance of making good use of clean water and toilet facilities through counseling to residents so that residents have knowledge and responsible attitudes regarding themselves and their environment.

Keywords: Clean water facilities, Availability of family latrines, Incidence of childhood diarrheal disease

INTRODUCTION

Diarrhea is still one of the main causes of morbidity and death. Almost all regions in the world and all age groups are attacked by diarrhea, but most of those who are targeted by this disease are babies and toddlers, where they experience an average of 3-4 episodes of diarrhea per year or almost 15-20% of the child's life time. spent on diarrhea.⁽¹⁾ According to the World Health Organization (WHO), no less than one billion episodes of diarrhea occur every year throughout the world, 25-35 million of which occur in Indonesia. In Indonesia, diarrhea is one of the main public health problems, this is due to the still high incidence of diarrhea which causes many deaths, especially in toddlers.⁽²⁾

The practice of menstrual hygiene in school-age adolescents needs more attention. The incidence of diarrhea in Indonesia tends to increase from year to year. It is reported that there are 1.6 to 2 million cases of diarrhea per year in toddlers, so overall the estimated incidence of diarrhea in toddlers ranges, so that overall the estimated incidence of diarrhea in toddlers is around 40 million a year with deaths of 200,000-400,000.⁽³⁾

According to Widoyono (2014), in 2014 the number of diarrhea sufferers increased to 8,443 cases with the deaths of 184 people with a CFR of 2.94%, higher than the CFR target during extraordinary events (KLB) which is expected to be <1%. According to the prevalence obtained from various sources, one of which is the results of the National Basic Health Research (RISKESDAS) in

2013, diarrhea sufferers come from all ages, but the highest prevalence of diarrheal disease is suffered by toddlers, especially those aged <1 year (7%) and 1 -5 years (6.7%) . The prevalence of clinical diarrhea was 9.0% (range: 4.2% - 18.9%), highest in NAD Province (18.9%) and lowest in DI Yogyakarta (4.2%).⁽⁴⁾

Diarrhea can be caused by several factors. According to Sander (2014), the causes of diarrhea can be inadequate availability of clean water, water contaminated by feces, lack of hygiene facilities, unhygienic disposal of feces, poor personal and environmental hygiene, as well as improper preparation and storage of food.⁽⁵⁾ One of the environmental factors associated with diarrhea is water and food. Water that can cause or transmit diarrhea is water that is contaminated by germs that cause diarrhea, food that is contaminated by various germs that come from soil, air, humans and vectors such as flies.⁽⁶⁾

The government's efforts to overcome diarrhea have been carried out by improving environmental sanitation conditions both through underdeveloped village project programs and other projects, but to date it has not achieved the expected goals, because based on existing data, the incidence of diarrheal disease can be prevented by means of clean water and sanitation. the enabling environment has not declined.⁽⁷⁾ East Aceh Regency is one of the districts in Aceh Province. Diarrhea sufferers in East Aceh as of mid-2015 experienced an increase of 30% from the previous year with a recorded number of 1,861 sufferers throughout that year. This is proven by the recapitulation of data regarding the top 30 diseases at community health centers in East Aceh in 2015 (Dinkes Atim, 2016). From this data, it was found that the highest cases of diarrhea were in the Idi Tunong Health Center UPT work area with a total of 798 cases of diarrhea throughout 2015. Idi Tunong Community Health Center is one of the community health centers in East Aceh. Based on data from Idi Tunong Community Health Center, there were 206 cases of diarrhea in toddlers throughout 2015, while in 2016, from January to April, there were 33 toddlers affected by diarrhea. the largest number of sufferers with the number of diarrhea cases in toddlers in 2015 was 143 sufferers.⁽⁸⁾

Meanwhile, from the results of the inspection of ownership of basic sanitation facilities and the 2015 Idi Tunong Community Health Center report regarding access to clean water use as much as 84.2% (it is not yet known whether it complies with the specified requirements) and for the use of toilets, from 20 heads of families (KK) who examined only 5 heads of families who had toilets and only 15 heads of families who did not have healthy toilets. This illustrates that there are still many residents in the Idi Tunong Health Center UPT working area who do not yet have healthy toilet facilities and use clean water that meets the requirements.⁽⁹⁾

In fact, based on the research results of Ratnawati, et al (2015), the use of clean water facilities that do not meet sanitation requirements will increase the risk of children suffering from acute diarrhea by 1,310 times greater than the use of clean water facilities that meet the requirements. Then, the World Health Organization (WHO) in 2015 also released data showing that various behavioral interventions through environmental modification could reduce the incidence of diarrhea by up to 94%.⁽¹⁰⁾

Safe water treatment and its deviation at the household level reduces the incidence of diarrhea by 32% and efforts to increase the supply of clean water can reduce the incidence of diarrhea by 25%. In addition, practicing effective hand washing can reduce the incidence of diarrhea by 45%. For this reason, the researcher is interested in conducting research on the relationship between the availability of clean water facilities and the use of family latrines with the incidence of diarrhea in toddlers aged 10-59 months in the working area of the UPT Puskesmas Idi Tunong, East Aceh Regency..

METHOD

This research uses descriptive analytical methods using cross-sectional tests with the conceptual framework of this research regarding the relationship between the availability of clean water facilities and the use of latrines with the incidence of diarrhea in toddlers. measurement of the variable incidence of diarrhea in toddlers, diarrhea, if the toddler has diarrhea, no diarrhea if the toddler does not have diarrhea. Availability of Clean Water Facilities, Available, If there is availability of clean water facilities, Not Available, If there is no availability of clean water facilities

Use of Clean Water Facilities, Utilize, If there is use of clean water facilities, Not Utilize: If there is no use of clean water facilities, Availability of family latrines, Available, If there is availability of family latrines, Not Available, If there is no availability of family latrines, Utilization of family latrines,

Utilize, If there is use of the family latrine, Not Utilize, If there is no use of the family latrine. The population in this study were all mothers with toddlers who were in the working area of the UPT Puskesmas Idi Tunong, East Aceh Regency, totaling 90 people.

In this research, a questionnaire served as the primary data collection tool, and it was administered to mothers of toddlers. The study aimed to gauge the correlation between the accessibility of clean water facilities, utilization of latrines, and the prevalence of diarrhea within the operational jurisdiction of the UPT Puskesmas Idi Tunong in the East Aceh Regency.

Result

Sanitary facilities to support the personal hygiene behavior of adolescent girls during menstruation at MA Pondok Pesantren Ruhul Islam Anak Bangsa are adequate, such as the availability of bathrooms and good clean water.

1. Incidence of Diarrhea in Toddlers

Frequency Distribution of Diarrhea Incidents in Toddlers in the Working Area of the Idi Tunong Health Center UPT, East Aceh Regency in table 1.

Table 1. Distribution of students at Pondok Pesantren Ruhul Islam Anak Bangsa (RIAB)

No	Incidence of Diarrhea in Toddlers	F	%
1.	Diarrhea	6	12,8
2.	No diarrhea	41	87,2
	Amount	47	100

Table 1 reveals that among the 47 respondents, a predominant number of toddlers, constituting 87.2%, did not encounter diarrhea. In contrast, a minority, accounting for 12.8%, experienced incidents of diarrhea.

2. Availability of Clean Water Facilities

Frequency Distribution of Availability of Clean Water Facilities in the Working Area of the UPT Puskesmas Idi Tunong East Aceh Regency

No	Availability of Clean Water Facilities	F	%
1.	Available	40	64,0
2.	Not available	7	36,0
	Amount	47	100

From table 2 it can be seen that of the 47 respondents, the majority of respondents who have clean water facilities are 40 respondents (64.0%) and the minority of respondents who do not have clean water facilities are 7 respondents (36.0%).

3. Availability of Family Toilet

Frequency Distribution of Family Toilet Availability in the Idi Tunong Community Health Center UPT Working Area, East Aceh Regency

No	Availability of Family Toilet	F	%
1.	Available	38	80,0
2.	Not available	9	19,1
	Amount	47	100

From table 3 it can be seen that of the 47 respondents, the majority of respondents who had family latrines available were 38 respondents (80.0%) and the minority of respondents who did not have family latrines available were 9 respondents (19.1%).

Analysis of the Relationship between the Availability of Clean Water Facilities and the Incidence of Diarrhea in Toddlers in the Idi Tunong Community Health Center UPT Working Area

Availability of Clean Water Facilities	Incidence of Diarrhea in Toddlers				F	%	A	P - Value
	Diarrhea	%	No Diarrhea	%				
Available	0	0	40	100	40	100	0,05	0,000
Not available	6	85,7	1	14,3	7	100		

According to Table 4 the data indicates that all 40 respondents (100%) who had access to clean water facilities reported no instances of diarrhea in toddlers. Conversely, among the 7 respondents who lacked access to clean water facilities, 6 respondents (85.7%) reported incidents of diarrhea in toddlers.

Analysis of the Relationship between the Availability of Family Latrines and the Incidence of Diarrhea in Toddlers in the Idi Tunong Community Health Center UPT Working Area

Availability of Family Toilet	Incidence of Diarrhea in Toddlers				F	%	A	P - Value
	Diarrhea	%	No Diarrhea	%				
Available	2	5,3	36	94,7	38	100	0,05	0,002
Not available	4	44,4	5	55,6	9	100		

According to Table 5 the findings indicate that among the 38 respondents, 94.7% (36 respondents) who had family latrines did not report any incidents of diarrhea in their toddlers. In contrast, all 9 respondents who lacked family latrines experienced diarrhea incidents in their toddlers, accounting for 100%. Notably, among these respondents without family latrines, 44.4% (4 respondents) reported incidents of diarrhea in their children.

Analysis of the Relationship between the Use of Family Latrines and the Incidence of Diarrhea in Toddlers in the UPT Working Area Idi Tunong Community Health Center, East Aceh Regency

Use of Family Latrines	Incidence of Diarrhea in Toddlers				F	%	A	P - Value
	Diarrhea	%	No Diarrhea	%				
Utilise	0	0	37	100	37	100	0,05	0,000
Not Utilizing	6	60,0	4	40,0	10	100		

Based on table 6 it shows that out of 37 respondents (100%), 37 respondents (100%) of respondents who used family latrines did not experience diarrhea incidents in toddlers and 10 respondents (100%) who did not use family latrines experienced as many diarrhea incidents in toddlers. 6 respondents (60.0%).

Discussion

The results of the research show that out of 40 respondents (100%), 40 respondents (100%) of respondents who had clean water facilities did not experience diarrhea in toddlers and 7 respondents (100%) who did not have clean water facilities experienced diarrhea in children. toddlers were 6 respondents (85.7%). Air plays a very important role in life, especially for drinking and hygiene needs. Based on global data, it is estimated that 88 percent of deaths from 1.6 million children due to diarrhea are caused by unsafe air supply, inadequate sanitation, and poor hygiene. The water we need is clean water and drinking water. Clean water is water used for daily needs whose quality meets health requirements and can be drunk when it is ripe while drinking water is water that has gone through a processing process or without processing that meets health requirements and can be drunk ⁽¹⁰⁾.

The researcher's assumption, which can be seen from the results of this study, shows that there is a significant relationship between the availability of clean water facilities and the incidence of diarrhea in toddlers in the Idi Tunong Public Health Center UPT Working Area, East Aceh Regency, this illustrates the need for clean water sanitation for a healthy and disease-free life.

The results of the research show that of the 38 respondents (100%), 36 respondents (94.7%) of respondents who had family latrines did not experience diarrhea incidents and 9 respondents (100%) who did not have family latrines experienced diarrhea incidents in their children. toddlers were 4 respondents (44.4%). The results of this study are in accordance with research conducted, in Bandung Regency which stated that toddlers who used clean water sources that were categorized as not meeting the requirements had a 3.28 times risk of suffering from diarrhea compared to toddlers whose families used clean water sources that met the requirements. condition. This research is also in accordance with research conducted by Fitriani (2005), in Palembang which stated that families of toddlers who used clean water sources of poor quality had a 3.9 times risk of developing diarrhea compared to families of toddlers who used clean water sources of good quality ⁽¹¹⁾.

The researcher's assumption is that we can see from the results of this research that good use of clean water facilities can control the occurrence of disease. Water that is used properly is through a boiling cooking process, this can kill germs that can cause disease. From the results of field observations, the use of water in the community is very good, this is proven by the large number of people who boil their water first before drinking it. Understanding the use of clean water is very much needed in society, so that people do not drink water that has not been processed or cooked.

The results of the research show that 37 respondents (100%) of the 37 respondents (100%), respondents who used family latrines did not experience diarrhea in toddlers and 10 respondents (100%) who did not use family latrines experienced diarrhea in toddlers as much as 37 respondents (100%). 6 respondents (60.0%).

The results of research are in line with those carried, it is known that of the 37 respondents with a high level of knowledge, 36 people (97.3%) use latrines and 1 person (2.7%) does not use latrines. Meanwhile, of the 38 respondents with a low level of knowledge, 6 people (15.8%) used latrines and 32 people (84.2%) did not use latrines. Statistically it was proven that there was a significant relationship between knowledge and latrine use ($p=0.000$). Knowledge is something that is very important to know when using a toilet. If a person has good knowledge about the use of a latrine then the action of using the latrine will go well. However, if a person does not have good knowledge about the meaning, benefits and types of toilets then the action of using a toilet will not work well ⁽¹²⁾.

The researcher's assumption, which can be seen from the results of this study, shows the importance of using toilets in the family, there are many risks of disease that will arise if the family does not use the toilets at home or public toilets. This can prevent families from defecating anywhere and can avoid diarrhea. Researchers' observations in the field regarding the use of latrines have been good, this is due to the high level of public awareness in maintaining cleanliness. Researchers also only found a few houses that still did not consistently utilize existing latrines, due to the habit of defecating on the edge of the river or by going into the bushes to defecate.

CONCLUSION

From the results of statistical tests (Chi-Square Test), a value of $P=0.000$ ($P<0.05$) was obtained, indicating that there is a relationship between the availability of clean water facilities and the incidence of diarrhea in toddlers. From the results of statistical tests (Chi-Square Test), it was obtained The P value= 0.002 ($P<0.05$) indicates that there is a relationship between the availability of family latrines and the incidence of diarrhea in toddlers. From the results of statistical tests (Chi-Square Test), a value of $P=0.002$ ($P<0.05$) was obtained, indicating that there is a relationship between the availability of family latrines and the incidence of diarrhea in toddlers. From the results of statistical tests (Chi-Square Test), values were obtained $P=0.000$ ($P<0.05$) indicates that there is a relationship between the use of family latrines and the incidence of diarrhea in toddlers.

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