



WALUYA THE INTERNATIONAL SCIENCE OF HEALTH JOURNAL

The Relationship between Clean Water Facilities and Healthy Latrines with the Incidence of Diarrhea in Morosi District, Konawe Regency

Rois Kurnia Saputra, Erwin Azizi Jayadipraja, Muhammad Nirwan

Mandala Waluya University, Indonesia
Correspondence : roiskurnia133@gmail.com

ARTICLE INFO

Article history

Received : July 16th, 2023
Revised : December 17th, 2023
Accepted : December 30th, 2023

Keywords

Clean Water Facilities,
Healthy latrines,
Diarrhea.

ABSTRACT

Introduction: From 2020 to 2022 in Konawe Regency in 2020 there were 6,877 cases with a prevalence of 27/100,000 population, diarrheal disease in the population of all ages there were 2,319 cases with a prevalence of 9/100,000 population in all age groups in 2020. According to data, there are 1,151 cases with a prevalence of 5/100,000 population in 2021 at all ages from January to August. This study aims to study the factors of the occurrence of diarrhea associated with basic sanitation and vectors in Morosi sub-district, Konawe district.

Method: This type of research is a quantitative study using a cross-sectional study survey design and a descriptive survey. The population in this study is the community in Morosi District, Konawe Regency. The population of household heads is 1,549 households. Sampling using Cluster Random Sampling with a total sample of 91 respondents. The statistical test used is the data normality test and the chi square test.

Result: This study showed that clean water facilities were not associated with diarrhea ($p = 1.245 > 0.05$), healthy latrines were associated with diarrhea ($p = 0.00 < 0.05$).

Conclusion: Healthy latrines, garbage disposal facilities, waste water disposal facilities and the density of flies are factors associated with the incidence of diarrhea in Morosi District, Konawe Regency.

Introduction

Diarrhea is a public health problem and the leading cause of death worldwide in children under the age of five. Diarrhea remains a relatively significant problem having a morbidity rate of

between 200 and 400 events per 1,000 persons annually.^[1]

The World Health Organization states that diarrhea is the 10th leading cause of child death.^[2] Based on the characteristics of the population, children are the group that suffers the most from

diarrhea, with 48,913/100,000 residents. Diarrhea is a disease with the highest incidence and mortality rates in the world. There are reportedly around 1.7 trillion cases each year.

Diarrhea is a disease that often occurs in Indonesia, has the potential to cause extraordinary events, and is often associated with death. There are 7,318,417 cases of diarrhea in Indonesia in 2021. In the Southeast Sulawesi region, 30,290 cases of diarrhea have been treated with a prevalence of 88/100,000 population.^[3]

Water is part of the physical environment and is critical to many operations, including in industry, agriculture, firefighting and other areas. It also plays an important role in the life process of providing good quality water-based resource facilities that meet the requirements for quality, quantity, and continuity is the provision of clean water that meets the requirement.

A latrine is a place where feces or human excrement is disposed of which is intended for families that meet health requirements, such as having walls and a roof, a well-functioning water disposal site, and a floor that is impermeable or non-slip. which does not obscure vision, emit odors, or the like.^[4]

The purpose of the research conducted was to determine the relationship between clean water facilities and healthy latrines with the incidence of diarrhea around Morosi sub-district, Konawe Regency.

Method

Analysis of the data used in this study is using a linear regression statistical test with SPSS 16 to determine the relationship between variables, namely clean water facilities and healthy latrines with the incidence of diarrhea. This research is located in Morosi District, Konawe Regency, namely in the villages of Morosi, Porara, Puury, Mendikonu, Wonua Morini, Besu, Paku, Tanggobu, Paku Jaya and Tondowatu. The population in this study is the community in Morosi District, Konawe Regency. The population of household heads is 1,549 households. The

sample in this study were heads of families in Morosi District, Konawe Regency, totaling 91 respondents.

Result

The administrative boundaries of the research location are as follows:

- To the north it is bordered by the working area of the Matandahi Public Health Center, Matandahi District, North Konawe Regency,
- To the west it is bordered by the working area of the Besulutu Health Center, Besulutu District, Konawe Regency,
- To the south it is bordered by the working area of the Sampara Public Health Center, Sampara District, Konawe Regency,
- To the east it is bordered by the working area of the Laosu Public Health Center, Bondoala District, Konawe Regency.

Picture 1. Research location map

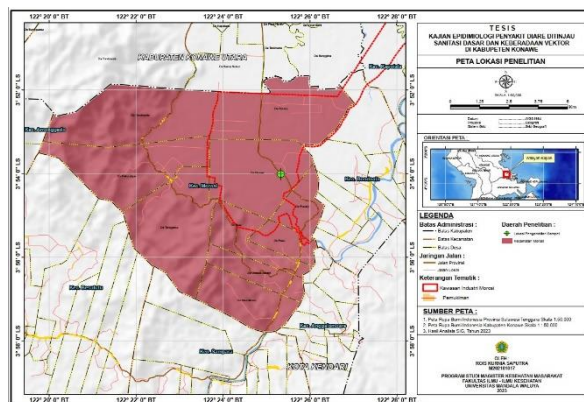


Table 1 shows that of the 25 respondents with clean water facilities that did not meet the requirements, there were 12 respondents (48%) who had diarrhea and 13 respondents (52%) who did not have diarrhea. Meanwhile, from 66 respondents who met the requirements, there were 42 respondents (63.6%) who had diarrhea and 24 respondents (36.4%) who did not have diarrhea. This shows that more respondents with clean water facilities that meet the requirements have diarrhea. The results of the chi square statistical test at the 95% level of confidence ($\alpha = 0.05$) show

that the value of $p = 1.246$ because H_0 is accepted then H_a is rejected, which means there is no relationship between clean water facilities and the incidence of diarrhea in Morosi District, Konawe Regency.

Table 2 shows that of the 72 respondents with healthy latrines that did not meet the requirements, 51 respondents (70.8%) had diarrhea and 21 respondents (29.2%) did not. While of the 19 respondents who met the requirements, there were

3 respondents (15.8%) who had diarrhea and 16 respondents (84.2%) who did not have diarrhea. This shows that fewer respondents with healthy latrines that meet the requirements have diarrhea. The results of the chi square statistical test at the 95% level of confidence ($\alpha = 0.05$) show that the value of $p = 0.00$ because H_0 is rejected, H_a is accepted, which means there is a relationship between healthy latrines and the incidence of diarrhea in Morosi District, Konawe Regency.

Table 1.
Relationship Between Clean Water Facilities with Incidence of Diarrhea in Morosi District

Clean Water Facilities	Incidence of Diarrhea				Total	
	Diarrhea		Not Diarrhea			
	n	%	n	%	n	%
Not Qualified	12	48,0	13	52,0	25	100
Qualify	42	63,6	24	36,4	66	100
Total	54	59,3	37	40,7	91	100

Table 2.
Relationship Between Healthy Latrines with Incidence of Diarrhea in Morosi District

Clean Water Facilities	Incidence of Diarrhea				Total	
	Diarrhea		Not Diarrhea			
	n	%	n	%	n	%
Not Qualified	51	70,8	21	29,2	72	100
Qualify	3	15,8	16	84,2	19	100
Total	54	59,3	37	40,7	91	100

Discussion

Water for hygiene and sanitation purposes is water of a certain quality which is used for daily needs whose quality is different from drinking water.^[5]

The results of the univariate analysis showed that of the 91 respondents with clean water facilities, 42 respondents (63.6%) had diarrhea and 24 respondents (36.4%) did not have diarrhea, while 12 respondents (12 respondents) did not meet the requirements. 48%) had diarrhea and 13 respondents (58%) had no diarrhea. Based on the results of observations, it was shown that the type of clean water facilities used by most of the respondents came from industry and 66 (72.5%)

purchased water towers compared to non-PDAM sources (dug wells) of only 25 (27.5%).

Efforts to solve the problem, namely that people should not throw garbage in waterways which will result in deteriorating water quality and becoming unclean. Therefore, the act of not throwing garbage in waterways and throwing it in the trash is a wise step to overcome this problem.

The results of this study indicate that there is no relationship between clean water facilities and the incidence of diarrhea. The results of this study indicate that there is no significant relationship between clean water sanitation and the incidence of diarrhea.^[6] Other research shows that there is no relationship between clean water facilities and the occurrence of diarrhea in the last 3 months.^[7]

A latrine is a room that has human waste disposal facilities consisting of a squatting place or seat with a goose neck or without a goose neck equipped with a sewage and water storage unit for cleaning it.^[8]

The results of the univariate analysis showed that out of 91 healthy latrine respondents who met the requirements, 3 respondents (15.8%) had diarrhea and 16 respondents (84.2%) did not have diarrhea. Meanwhile, healthy latrines that did not meet the requirements were 51 respondents (70, 8%) had diarrhea and 21 respondents (29.2%) had no diarrhea. Based on the results of observations, it was shown that the healthy latrines used by most of the respondents did not meet the requirements 72 (79.1%) compared to latrines that met the requirements, only 19 (20.9%) latrines had cleaning tools, no stagnant water, no damage. on the floor.

Efforts to solve the problem are that the government makes healthy family latrines around industrial areas, so that people in some villages do not defecate around running water, while other people pay more attention to latrines that are already in their respective homes by cleaning and caring for latrines if there are any. that is damaged is repaired immediately.

The results of this study indicate that there is a relationship between healthy latrines and the incidence of diarrhea. This is in line with the theory put forward which states that the relationship between latrines and the incidence of diarrhea is influenced by the characteristics of the respondent's family who still use the river a lot as a means of bathing, washing, and toilet in their daily lives.^[9] As for ^[10], based on the results of statistical test analysis using Chi Square, it was obtained that the value of X^2 count (9,478) > X^2 table (3,841) and p count (0.002) < p table (0.05), there is an influence between the use of healthy latrines on the incidence of diarrhea in Ropang Village, Sumbawa District.

Conclusion

Based on the results of research conducted, the following conclusions were obtained:

1. There is no relationship between clean water facilities and the incidence of diarrhea in Morosi District, Konawe Regency.
2. There is a relationship between healthy latrines and the incidence of diarrhea in Morosi District, Konawe Regency.

Reference

1. Heryanto E, Sarwoko S, Meliyanti F. Risk Factors for Diarrhea in Toddlers at the UPTD Sukaraya Health Center, OKU Regency in 2021. *Indones J Heal Med.* 2022;2(1):10–21.
2. WHO. Monitoring Health for the SDGs, Sustainable Development Goals. *Ganeva.* in Geneva; 2019.
3. Ministry of Health R. *Health Profile of Indonesia.* Jakarta: 2021; 2020. 480 p.m.
4. Kasman, k., & Ishak, N. I. (2020). Ownership of Latrine Against Diarrhea in Toddlers in Banjarmasin City. *Journal of Indonesian Public Health Publications*, 7(1), 28-33.
5. Regulation of the Minister of Health, I. (2017). Regulation of the Minister of Health of the Republic of Indonesia. *Journal of Chemical Information and Modeling*, 21(2), 1689–1699.
6. Nasution, A. R. (2019). *Relationship between Basic Sanitation and Diarrhea in Toddlers in the Hutaimbaru Village, Padangsidimpuan City, State Islamic University of North Sumatra.*
7. Prawati, D. D., & Haqi, D. N. (2019). Factors influencing the incidence of diarrhea in Tambak Sari, Surabaya City. *Promkes Journal*, 7(1), 34-45.
8. Akli, H. S. (2022). *The Relationship between Healthy Latrine Ownership and Diarrhea in Bumi Ratu Village, Bumi Ratu Nuban District, Central Lampung Regency in 2021.*
9. Zairinayati, Z., & Sumadi, A. (2020). Analysis

of Diarrhea Based on Environmental Sanitation. *Babul Ilmi Scientific Journal of Multi Science Health*, 12(1).

10. Setiawaty, E., Alfian, A., & Fauzi, M. (2022). The Effect of Use of Healthy Latrines on the Incidence of Diarrhea in Ropang Village, Ropang District. *Samawa Health Journal*, 7(1), 15-22.