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Original Article

Factors Associated with the Occurrence of Diarrhea in Toddlers

Miswan[1], Firyanti[2*], Hamidah[3]
[1,2,3]Faculty of Public Health, Universitas Muhammadiyah Palu, Indonesia

***Corresponding Author e-mail**: firayantiabbas@gmail.com

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Abstract
Environmental sanitation is important for environmental health and must be owned by every family to meet daily needs, the impact of low levels of sanitation coverage reduces the quality of human life. Poor environmental sanitation conditions are one of the factors increasing diarrheal disease, where environmental sanitation includes several factors, namely clean water quality, waste management, latrine sanitation, and liquid waste management. The type of research used is quantitative research in the form of an observational survey with the Cross-Sectional approach method, which is a study conducted with momentary observation or in a certain period of time and each study subject is only made one observation during the study. The results showed that there was a significant relationship between clean water facilities and the incidence of diarrhea in toddlers with a P-value of 0.000. The P-Value <0.05, On the advice of healthy latrines the results showed that there was a significant relationship between healthy latrines and the incidence of diarrhea in toddlers the P-Value was 0.000. The P-Value <0.05, In the suggestion of waste disposal the results showed that there was a relationship between waste management and the incidence of diarrhea in toddlers the P-Value result was 0.008. The P-Value < 0.05, In Sara ari waste (SPAL) there is a significant relationship between Sara air limbah (SPAL) with the incidence of diarrhea in toddlers the P-Value result is 0.036. P-value < 0.05. Conclusion based on the results of research that has been done on the factors associated with the incidence of diarrhea in toddlers in Ujunax` Village, Kamonji Health Center Working Area, West Palu District, Palu City.

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Introduction
Diarrhea occurs worldwide and causes 4% of all deaths and 5% of disability-related deaths. Diarrhea remains the leading cause of death among children under 5 years of age in sub-Saharan Africa. Risk factors for acute diarrhea vary from setting to setting and have important implications for reducing the burden of disease (1).

The relationship between clean water facilities and diarrheal disease and children under five without adequate physical water will be susceptible to diarrheal disease. Most home water reservoirs are still open and there are no scoops placed above the water reservoir (2).

According to the 2018 riskesdas results, diarrheal disease is most often found in children under five and shows that diarrheal disease is the main cause of death in children under five years old. You can see the prevalence incidence rate in 2013 of those suffering from diarrheal disease, namely the prevalence incidence rate in 2013 of those suffering from diarrheal disease, namely as much as 40% in 2018, according to Riskesdas, there was an increase in the incidence rate. According to Riskesdas, according to epidemiology, there was an increase in the prevalence of diarrheal disease in Indonesia, reaching 80% (3).

Environmental cleanliness is important for environmental health and must be owned by every family to meet daily needs. The impact of low coverage of cleanliness reduces the quality of human life. Poor environmental sanitation is one of the factors in increasing the incidence of diarrheal disease, because environmental sanitation includes many factors, namely clean water quality, waste management, latrine sanitation, and liquid waste management (4).

Methods

The method used is quantitative research in the form of an observational survey with a Cross Sectional approach method, namely research carried out by momentary observation or over a certain period of time and each study subject only makes one observation during the research. Journal writing in this literature review begins with selecting a topic, then determining keywords for journal searches. The journals used in the literature review were obtained through the Google Scholar journal provision database, data from the Health Service, research location in Ujuna Village, 22 February 2023.

Results

Relationship between Healthy Latrine and Diarrhea Occurrence

Table 1. The relationship between healthy latrines and the incidence of diarrhea in children under five in Ujuna Village, Kamonji Community Health Center Working Area, West Palu District, Palu City

Healthy Latrines	Diarrhea Occurrence				Total		*P-Value*
	No		Yes				
	n	%	n	%	N	%	
Not eligible	5	9.1	27	49.1	32	58.2	
Qualify	18	32.7	5	9.1	23	41.8	**0,000**
Total	**23**	**41.8**	**32**	**58.2**	**55**	**100**	

Source: Primary Data, 2021

Based on table 1, it shows that the highest percentage of respondents were respondents who experienced diarrhea and had clean, healthy latrines in the category that did not meet the requirements, namely 27 people (49.1%). Meanwhile, the lowest percentage of respondents were respondents who did not experience diarrhea and had a healthy latrine in the non-compliant category, namely 5 people (9.1%). Based on the results of the Chi-Square statistical test, the P-Value result is 0.000. P-Value < 0.05, then Ho is rejected and Ha is accepted. This means that there is a relationship between healthy latrines and the incidence of diarrhea in children under five in Ujuna Village, Kamonji Health Center Working Area, West Palu District, Palu City.

ISCUSSION

Clean water facilities based on Unvariate results show that the most clean water facilities are in the Fulfilling Requirements category, namely 28 people (50.9%) and the fewest clean water facilities are in the Unqualified category, namely 27 people (49.1%). Bivariate investigation using shows that the Chi-Square statistical test results in a P-Value of 0.000. P-Value < 0.05. There is a relationship between clean water facilities and the incidence of diarrhea in children under five in Ujuna Village, Kamonji Health Center Working Area, West Palu District, Palu City.

Clean water facilities based on Unvariate results show that the most clean water facilities are in the Fulfilling Requirements category, namely 28 people (50.9%) and the fewest clean water facilities are in the Unqualified category, namely 27 people (49.1%). In communities where knowledge about water hygiene and health is limited, ownership of clean water may be low due to a lack of understanding of the importance of safe water and ways to avoid diseases transmitted through contaminated water. Research has shown that education and awareness about the importance of clean water and good sanitation contributes to increasing the availability of clean water. When people have a better understanding of the benefits of clean water and the risks associated with contaminated water, they are more likely to invest in efforts to gain and maintain access to clean water. Based on the research results, it was found that there were 28 respondents with low knowledge who did not have clean water, while with high knowledge there were 27 respondents who had clean water. Knowledge is an important factor in efforts to increase

clean water, because with good knowledge, you will increasingly understand and be able to implement efforts to provide a good source of clean family water.

This researcher is in line with the researcher (Monika Putri BR Ambarita 2021) of 65 respondents, respondents with clean water facilities that do not meet the requirements are 41 respondents (63.1%) and respondents who have clean water facilities that meet the requirements are 24 respondents (36, 9%) (5).

In accordance with the opinion of (Ginanjar, 2008) the availability of clean water sources is an effort to improve the level of public health. Environmental health is carried out to create a healthy environment, namely a condition that is free from risks that endanger the health and safety of human life. Environmental health includes water sanitation, namely securing and determining water quality for various needs and human life. Thus, water used for daily needs, apart from fulfilling or covering the quantity, must also meet the specified quality. It is important to provide good quality water to meet basic needs in preventing the spread of infectious diseases through water.

Based on the results of the Unvariate analysis, it shows that the healthiest toilets are in the category that does not meet the requirements, namely 32 people (58.2%) and the fewest healthy toilets are in the category that meets the requirements, namely 23 people (41.8%). Bivariate analysis uses The Chi-Square statistical test results in a P-Value of 0.000. P-Value < 0.05, then Ho is rejected and Ha is accepted. This means that there is a relationship between healthy latrines and the incidence of diarrhea in children under five in Ujuna Village, Kamonji Community Health Center Working Area, West Palu District, Palu City.

Research has shown that a lack of knowledge about the importance of good sanitation and the adverse impacts of lack of sanitation can hinder latrine ownership. Some people may not be aware of the risk of disease that arises from contamination of water and food by human feces. The largest number of healthy latrines is in the category that does not meet the requirements, namely 32 people and the fewest healthy latrines are in the category that meets the requirements, namely 23 people. With a better understanding of this, people are more likely to prioritize latrine ownership. In addition, knowledge of latrine design, construction and maintenance is also important. Understanding how to build and maintain hygienic and effective latrines can help individuals and communities have well-functioning latrines. However, as is the case with clean water ownership, other factors also influence latrine ownership. Factors such as availability of sanitation infrastructure, accessibility, finance and government policies also play an important role. Ownership of spacious latrines and good sanitation services requires comprehensive and collaborative efforts from various parties, including education, policy support, and investment in sanitation infrastructure.

The condition of a latrine can be said to meet the requirements if it meets several predetermined requirements, including having a distance of >10 meters from a water source, having a septic tank, being free from vectors, having an easy-to-use stand, being easy to clean, being free from odors, and not polluting the ground surface. Latrine conditions that do not meet the requirements will pollute the environment from human waste and become a medium for transmitting pathogenic microorganisms that cause diarrhea (6).

Based on the results of the univariate analysis, the majority of waste management is in the category that does not meet the requirements, namely 34 people (61.8%) and the least amount of waste management is the category that meets the requirements, namely 21 people (38.2%). Bivariate analysis using the Chi-Square statistical test resulted in a P-Value of 0.008. P-Value < 0.05, then Ho is rejected and Ha is accepted. This means that there is a relationship between waste management and the incidence of diarrhea in children under five in Ujuna Village, Kamonji Community Health Center Working Area, West Palu District, Palu City.

Knowledge of the principles of waste reduction, recycling and management can also be influential. Knowing how to separate waste, classify different types of waste, and understand the recycling process can help individuals implement better waste management measures. However, it is important to note that other factors also influence waste management, such as the accessibility of waste management facilities, such as watertight and covered waste bins, policy support, and active participation from the government and community in sustainable waste management practices.

Supported by previous literature (Tangka, et al, 2014) explains that the condition of waste disposal facilities that do not meet the requirements and poor final waste management is one of the breeding grounds for fly vectors that can carry or transmit diarrheal diseases (7). Based on the condition of waste disposal facilities that do not meet the requirements of respondents and explanations from previous literature, it can be stated that there is a relationship between the availability of waste disposal facilities that do not meet the requirements and can be at risk of causing diarrhea in the community.

Based on the results of the univariate analysis, the most waste water drainage channels are in the category that does not meet the requirements, namely 34 people (61.8%) and the fewest waste water drainage channels are

in the Qualified category, namely 21 people (38.bv2%). Analysis Bivariate using the Chi-Square statistical test results, the P-Value was 0.036. P-Value < 0.05, then Ho is rejected and Ha is accepted. This means that there is a relationship between waste water drainage channels and the incidence of diarrhea in children under five in Ujuna Village, Kamonji Community Health Center Working Area, West Palu District, Palu City.

Research has shown that a lack of knowledge about wastewater management can lead to careless discharge of waste into the environment, including rivers, lakes, or other water systems. When people have a better understanding of the danger's wastewater pollution poses to clean water sources and human health, they are more likely to adopt responsible wastewater management practices.

Knowledge of how to plan, build, and maintain sewerage systems is also important. Understanding the techniques of planning, pipe installation, and system operation and maintenance can help individuals and communities manage wastewater drainage efficiently and effectively. The largest number of waste water drainage channels is in the category that does not meet the requirements, namely 34 people and the fewest waste water drainage channels are in the Qualified category, namely 21 people. In addition, knowledge about wastewater treatment practices also has an influence. Knowing wastewater treatment methods, including the physical, chemical, or biological processes used in waste treatment, can help individuals and communities to select and implement measures appropriate to their conditions. However, it is important to note that wastewater management is also influenced by other factors such as sanitation infrastructure, accessibility, finance, and government policy. To achieve good wastewater management, a comprehensive approach is needed that involves education, policy support, infrastructure investment, and active participation from various related parties.

The results of this research are supported by the results of research conducted by (Sekar Langit, 2016), the results of bivariate tests show that there is a relationship between the condition of waste water drainage channels (SPAL) and the incidence of diarrhea in toddlers in the Rembang 2 Community Health Center Working Area (8). Chi square results were obtained p value (0.000) < α (0.05), 38 (53.5%) toddlers met the requirements. Wastewater that is not managed properly can cause surface water or groundwater pollution which may be used for daily needs such as bathing, drinking water, cleaning kitchen equipment, etc. (9).

Waste water facilities (SPAL) that meet the requirements must have several characteristics, such as being closed and infiltrated without polluting clean water sources at a minimum distance of 10 meters, waste water that meets the requirements must have a closed system to avoid leaks and uncontrolled spread of waste, This is important to prevent environmental pollution and maintain cleanliness and health, and waste water facilities that meet the requirements must be designed in such a way that waste water can be infiltrated safely without polluting water sources such as rivers, lakes or drinking water wells or for other purposes in case This minimum distance of 10 meters between waste water facilities and drinking water sources is generally recommended as a pollution prevention measure (10).

Future Research Recommendation

It is hoped that it can become a reference material for students and suggestions for future researchers to serve as additional references and basic data for similar research and conduct reference research as a thesis and contribution to thought, as well as being able to develop knowledge, especially regarding clean living behavior and environmental cleanliness.

It is recommended that the community provide clean water facilities, healthy latrines, waste management and sewage channels (SPAL), implement a healthy and clean lifestyle through health efforts so that they can increase knowledge of healthy lifestyles.

Conclusion

This research concludes that the level of knowledge is a factor that influences latrine ownership in the Ujuna sub-district, West Palu Health Center Working Area, Palu City, P-Value < 0.05,). Then income level is a factor that influences latrine ownership in Ujuna Village, Kamonji Health Center Working Area, West Palu District, Palu City, value (p-value < 0.05). And then the level of harm that affects waste management in Ujuna Village, Kamonji Health Center Working Area, West Palu District, Palu City, Value (P-Value < 0.05). And f is a factor that influences the Waste Water Disposal Channel (SPAL) in Ujuna Village, Kamonji Health Center Working Area, West Palu District, Palu City, value (P-Value < 0.05).

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