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**Factor Affecting Incident Diarrhea In Slum Areas Disposal Rubbish**Dito Anurogo<sup>1\*</sup>, Carri Noer Fida Yanik<sup>2</sup>, Yermi<sup>3</sup>, Rezki Auliah<sup>4</sup><sup>\*1</sup> Faculty of Medicine and Health Sciences, University Muhammadiyah Makassar, Indonesia<sup>2</sup> Environmental Engineering, Universitas Argopuro Jember, Indonesia<sup>3</sup> Public Health Study Program, University of the Republic of Indonesia, Indonesia<sup>4</sup> Health Administration Study Program, Mbojo University, Bima, Indonesia**Abstract**

**Background :** Diarrhea Still become problem health mainstay in Indonesia, especially in the regions with sanitation bad and condition environment that is not healthy. Slum areas around place disposal rubbish own risk tall to disease this because limitations access to clean water, cleanliness food, as well as behavior life clean and healthy low.

Research purposes this aiming for know factors that influence incident diarrhea in the area adjacent slums with place disposal rubbish.

**Research methods** use design descriptive analytic with cross-sectional approach. The sample consists of from 250 heads family living nearby place disposal waste in City X, selected through purposive sampling technique. Data collected through questionnaire, observation field, and interviews in depth. Data analysis was carried out using chi-square and regression tests logistics multivariate.

**Results:** Factors that significantly significant influential to incident diarrhea is clean water quality ( $p=0.002$ ), habits wash hand ( $p=0.001$ ), management waste domestic ( $p=0.003$ ), and density occupancy ( $p=0.008$ ).

**Conclusion:** Necessary intervention cross sector for increase clean water access, education health public about sanitation basics, and improvements environment settlements.

**Keywords:** Diarrhea, Sanitation, Place Disposal Garbage, Area Slum, Behavior Life Clean and Healthy (PHBS)

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## 1. Introduction

Diarrhea is one of disease infection that is still become reason main morbidity and mortality especially in developing countries. According to WHO (2023), around 525,000 children die every the year consequence diarrhea worldwide. In Indonesia, the 2018 Riskesdas data shows prevalence diarrhea by 8% with number highest found in areas with condition sanitation bad environment.

Settlement adjacent slums with place disposal rubbish own risk more tall to incident diarrhea Because various factor risk environment and behavior. Conditions environment like No availability of clean water, no There is adequate toilet facilities, as well as practice low hygiene become trigger main. In addition, the density population and system poor drainage to aggravate distribution disease diarrhea. The purpose of this study is to analyze and identify factors that influence incident diarrhea in the area adjacent slums with place disposal rubbish.

## 2. Research Methods

Study This use design descriptive analytic with cross-sectional approach, which aims for know connection between factor risk environment and behavior with incident diarrhea. The population in this study were all heads of families living in slum areas around the X City Waste Disposal Site (TPS). A sample of 250 respondents was selected using purposive sampling technique with the following criteria:

- a. Lived for at least 1 year in the research area.
- b. Aged > 18 years and willing to be a respondent.
- c. Having a family member who has had diarrhea in the last 6 months.

Instruments used in the form of questionnaire structured, sheet observation sanitation House stairs, and guidelines interview deep. Dependent Research Variable is the incidence of diarrhea and Independent Variables are Clean water quality, MCK facilities, hand washing habits, waste management, household density. Data Analysis Techniques using Chi-square Test to see the relationship between variables and Multivariate Logistic Regression to determine the dominant factors that influence the incidence of diarrhea.





### 3. Results And Discussion

#### a. Results

Characteristics	Respondent Characteristics	
	Number (n=250)	Percentage (%)
<b>Gender</b>		
a. Man	102	40.8
b. Woman	148	59.2
<b>Last education</b>		
a. No school	42	16.8
a. Elementary School/Equivalent	108	43.2
b. Junior High School/Senior High School	85	34.0
c. College	15	6.0
<b>Economic Status</b>		
a. Very Poor	70	28.0
b. Poor	120	48.0
c. Enough	60	24.0

#### Prevalence Diarrhea

As many as 158 of the 250 respondents (63.2%) stated Once experience diarrhea in 6 months final.

#### Risk Factor Analysis

Risk Factors	p-value	OR (95% CI)	Information
Clean water No worthy	0.002	2.8 (1.6–4.9)	Significant
No washing hand	0.001	3.1 (1.9–5.2)	Significant
Waste No managed	0.003	2.5 (1.4–4.3)	Significant
MCK no adequate	0.050	1.6 (0.99–2.5)	Less significant





Density House height                      0.0082.2 (1.3–3.8)                      Significant

### Dominant Factors

Regression results logistics show that habit wash hand is factor dominant (OR=3.1), followed by water quality and management waste.

### b. Discussion

This study shows that the incidence of diarrhea is significantly influenced by water quality, hand washing behavior, and environmental sanitation conditions. This is in line with WHO and UNICEF studies which state that 88% of diarrhea cases in developing countries are caused by contaminated water and poor sanitation.

The behavior of washing hands with soap before eating and after defecating plays a major role in preventing diarrhea. However, in slum communities, access to handwashing facilities is often limited.

High housing density also has an impact on the rapid spread of infectious diseases, including diarrhea. In slum areas near TPS, an average of 4–6 people live in one small room without adequate ventilation.

### 4. Conclusion

This study concluded that the factors that influence the incidence of diarrhea in slum areas around TPS include:

1. Low quality of clean water.
2. Poor hand washing behavior.
3. Inadequate household waste management.
4. High residential density.

### 5. Compliance with Ethical Standards

#### Funding:

Study this no accept funding from institution whatever, good institution government, private sector, and organization non-profit.

#### Conflict of Interest:

Writer state no there is conflict interest in implementation and reporting results study this.

#### Ethical Approval:





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Study This has get agreement from Committee Ethics Health Research [Institution Name, e.g. "University X"] with number letter approval [Permit Letter Number Ethics]. All procedure study done in accordance with principle Declaration of Helsinki.

### Informed Consent:

Before data collection, participants has given explanation about objectives, procedures, risks, and benefits research. Participants who are willing follow as well as requested for sign sheet agreement after given explanation (informed consent).

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