

CHAPTER I

INTRODUCTION

1.1 Research Background

Infectious diseases are a major health problem in various developing countries, including Indonesia. Diarrhea is one of the infectious diseases with the highest mortality rate. Diarrhea is an environmentally-induced disease that occurs in nearly every region of the world. This disease threatens the lives of 2, 195 children every day and kills 801,000 children annually worldwide.¹ Based on the 2023 Basic Healthy Research (Riskesdas), diarrhea treatment for all ages was 41,5 %, and for toddlers it was 31,7% of the established target. The province with the highest level of coverage for diarrhea treatment service (62,2%), while the province with the lowest coverage was the Riau Island (5,3%).²

In Indonesia, there are four modern Islamic boarding schools equipped with health facilities. These are the Ummul Mukminin Islamic boarding school, and the IMMIM islamic boarding school for boys. Based on disease data from these four islamic boarding school, diarrhea cases increased from 210 in 2016 to 383 in 2017, ranking first among the 10 most common diseases. Meanwhile, at the Darussalam Gontor Modern Islamic Boarding School for Girls, 1st Campus, according to data from the Indonesian Health Coordinating Boarding School (BKSM), there were 2337 cases of diarrhea recorded in May 2024-2025.³

Factors that contribute directly and indirectly to diarrhea include the agent, host, environment, and behavior. Environmental sanitation is a primary cause of diarrhea, including factors such as drinking water source, water quality, toilet ownership, and type of flooring. When unhealthy environmental factors are combined with

¹ Dwi Utami Farkhati, "Kajian Literatur: Gambaran Kondisi Sanitasi Lingkungan Rumah Dengan Kejadian Diare Pada Balita," *MPHJ Muhammadiyah Public Health Journal* Vol 1 No.2 (2021): 116.

² Kementerian Kesehatan Republik Indonesia, *Profil Kesehatan Indonesia 2023* (Jakarta: Kementerian Kesehatan Republik Indonesia, 2023).

³ Kemenkes, "Lewat BKSM Pesantren Gontor Pantau Kesehatan Santri Artikel Sehat Negriku Sehatlah Bangsa" (Kemenkes, 2019), <https://sehatnegeriku.kemkes.go.id/baca/umum/20191124/4532374/lewat-bksm-pesantren-gontor-pantau-kesehatan-santri/>.

unhealthy human behavior, the cumulative effect can lead to easy transmission of diarrhea.⁴ Good environmental sanitation can reduce the risk of developing various diseases, one of which is diarrhea. As Muslims, we should always maintain personal and environmental hygiene. The proper Muhammad (peace be upon him) said:

إِنَّ اللَّهَ طَيِّبٌ يُحِبُّ الطَّيِّبَ , نَظِيفٌ يُحِبُّ النَّظَافَةَ , كَرِيمٌ يُحِبُّ الْكَرَمَ , جَوَادٌ يُحِبُّ الْجُودَ , فَتَنَظَّفُوا أَفِينَكُمُ

*From Rasulullah sallallahu 'alaihi wa sallam: "indeed Allah SWT is holy who loves holy things, He is the most clean who loves cleanliness, He is the most noble who loves glory, He is the most beautiful who loves beauty, therefore clean your places" (HR. Tirmizi).*⁵

Malnutrition is a condition caused by diarrhea. Malnutrition and diarrhea are closely related. Diarrhea causes malnutrition, resulting in the inability to absorb nutrient. Prolonged diarrhea can disrupt a child's growth and development and even lead to death.⁶

This research is needed to provide a comprehensive overview of the environmental sanitation aspects that contribute to diarrhea among female students. This information is crucial for islamic boarding school administrators in designing and implementing more effective and targeted health intervention and sanitation improvement programs. This will enable more effective efforts in preventing and managing diarrhea with in the islamic boarding school environments.

1.2 Research Problem

The problem formulation in this research were:

1. What are the causal factors for diarrhea in islamic boarding school X?
2. What environmental sanitation conditions contribute to an increase in diarrhea cases at islamic boarding school X?

⁴ Yazika Rimbawati et al., "Hubungan Sanitasi Lingkungan Dengan Kejadian Diare Pada Balita," *Jurnal 'Aisyiyah Medika* 4 (2019): 189–198.

⁵ At- Tirmizi, *HR. Tirmizi*, n.d.

⁶ Mustaqiem Isda et al., "Pengaruh Diare Terhadap Malnutrisi Pada Balita Di Puskesmas Batoh Banda Aceh Tahun 2015," *Sari Pediatri* 18, no. 1 (2016): 50–54.

1.3 Research Objectives

The purpose of this research is:

1. Describe the factors causing diarrhea at islamic boarding school X
2. Describe the environmental sanitation conditions contribute to an increase in diarrhea cases at islamic boarding school X

1.4 Research Benefits

1. Theoretical Benefits

The result of this study are expected to contribute to scientific knowledge and serve as reference material for further research, particularly in providing information on the effects of environmental sanitation on the occurrence of diarrhea among female students at islamic boarding school.

2. Practical Benefits

The result of this study are expected to provide insight into the description of environmental sanitation condition among female students with diarrhea in an islamic boarding school X, there by supporting prevention efforts through the maintenance of environmental sanitation quality and the promotion of Clean and Healthy Living Behavior (PHBS).

1.5 Previous Research

Research on the impact of environmental sanitation on diarrhea incidence has been conducted by several researchers as shown in **Table 1.** below:

Table 1. Research Authenticity

Research Title	Research Method	Variable	Results	Research Differences
Spatial Analysis of Diarrhea Cases Based on Environmental Sanitation in Sidoarjo Regency in 2022. ⁷	Non-Eksperimental	Spatial analysis of diarrhea cases based on environmental sanitation in Sidoarjo district	There is no significant relationship between safe environmental sanitation and the incidence of diarrhea in sub-districts in Sidoarjo Regency in 2022 with a <i>p-value</i> = 0,503	Analysis of diarrhea incidents in islamic boarding schools in Ngawi Regency

⁷ Muhammad Al Himny Rusydy et.al, "Analisis Spasial Kasus Diare Berdasarkan Sanitasi Lingkungan Di Kabupaten Sidoarjo Tahun 2022," Jurnal Kesehatan Tambusai Vol 5 No.3 (2024): 7683–7686.

Research Title	Research Method	Variable	Results	Research Differences
The Relationship between Environmental Sanitation and the Incidence of Diarrheal Disease ⁸	Non-Eksperimental	The relationship between environmental sanitation and the incidence of diarrheal disease	There is a relationship between toilet ownership (p value = 0,000) and SPAL ownership (p value = 0,025) and the incidence of diarrhea	Did not examine the relationship between environmental sanitation and the incidence of diarrhea
The Relationship between Environmental Sanitation and the Incidence of Diarrhea in School-Age Children in the working Area of Bahu Manado Community Health Center ⁹	Non-Eksperimental	The relationship between environmental sanitation and the incidence of diarrhea in school-age children in the working area of Bahu Manado community health center	There is a relationship between environmental sanitation and the incidence of diarrhea in school-age children in the work area of the Bahu Manado community health center.	Examining the picture of environmental sanitation in female students suffering from diarrhea
Determinants of Diarrheal Disease Incidence in Students at Modern Islamic Boarding Schools in Makassar City in 2018 ¹⁰	Non-Eksperimental	Determinants of Diarrheal Disease Incidence in Students at 4 Modern Islamic Boarding Schools in Makassar City	The result of the study showed that the habit of snacking was quite high in IMMIM Putra Islamic Boarding School (74%) and low in Darul Arqam Islamic Boarding School (70%), while the habit of washing hand was sufficient in IMMIM Putra Islamic Boarding School (47,1%) and low in Darul Arqam Islamic Boarding School (80%). The behavior of	Conducting research at one islamic boarding school in Ngawi City

⁸ Reno Purbanova et.al, "Hubungan Sanitasi Lingkungan Dengan Kejadian Penyakit Diare," *Ensiklopedia of Journal* 6, no. 3 (2024): 240–245.

⁹ Ficher Tambuwun et al., "Hubungan Sanitasi Lingkungan Dengan Kejadian Diare Pada Anak Usia Sekolah Di Wilayah Kerja Puskesmas Bahu Manado," *e-Journal keperawatan* 3 Nomor 2 (2015): 6.

¹⁰ Syahratul Aeni et.al, "Determinan Kejadian Penyakit Diare Pada Santri Di Pesantren Modern Kota Makassar Tahun 2018," *Higiene* Volume 5, (2018): 92.

Research Title	Research Method	Variable	Results	Research Differences
			Throwing away garbage was quite visible in Darul Aman and Darul Arqam Islamic Boarding Schools with a percentage of (66,7%), but the behavior of throwing away garbage was also lacking at (66,7%) in Darul Arqam Islamic Boarding School. Meanwhile, the behavior of using toilets was quite good in Ummul Mukminin Putri Islamic Boarding School (65,8%) and lacking in Darul Arqam Islamic Boarding School (66,7%).	

