



Research Article

Infectious Disease Health Problems At Pondok Pesantren X, Pasuruan City In 2023

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ABSTRACT

Pesantren is an Islamic educational institution that provides religious education services. Pesantren usually provides dormitories for students, where many people live in one location, resulting in crowded living conditions for an extended period. If anyone is infected with an infectious disease, it can easily be transmitted to others, leading to an outbreak and enormous losses. Therefore, we want to analyze the infectious disease in Pondok Pesantren X. We managed to interview 102 Santri and observe some dormitory rooms. Based on our analysis of the infectious disease situation, the diseases recorded in the clinic do not encompass all illnesses experienced by the students. Common infectious diseases among students in the Pondok Pesantren include not only scabies, as many people say there are also acute respiratory infections, gastroenteritis, typhoid, COVID-19, tuberculosis (TBC), and dengue fever (DBD). The caregivers and administrators of the Pondok Pesantren can encourage students to avoid risky behaviors leading to infectious diseases.

Keywords: *Infectious disease, pondok pesantren, situation analysis.*

INTRODUCTION

To achieve The Four Pillars of Indonesia's vision for the year 2045 (Bappenas, 2017), human resources (HR) is the main asset in national development, and health is fundamental to that and also a right of every human being (United Nations, 2015). Achieving the highest possible level of public health is an investment in developing productive human resources, both socially and economically (Renstra, 2015). This fact is reinforced by the World Health Organization (WHO) has set jointly agreed agendas for achieving sustainable development goals (SDGs) in each country in 2030; four out of the 17 SDGs related to health are found in Goals 2 (Zero Hunger), 3 (Good Health and Well-being), 5 (Gender Equality), and 6 (Clean Water and Sanitation) (Sachs, et al., 2017). The government's efforts to improve the health of the nation align with achieving sustainable development targets through programs and regulations at the national, regional, and local levels.

As a country that adheres to regional autonomy, every region in Indonesia has the freedom to govern itself, which aligns with one of the strategies for designing health programs through decentralization. This strategy is considered more optimal and can be adjusted to the size of the



problems and the needs of each region. Limited human resources and health budget allocations make it challenging to support the implementation of all disease control and eradication programs. Therefore, health situation analysis is the first mandatory step that must be taken to provide information on the status of health and health services in a particular area. The results of the situation analysis provide information on the magnitude of health problems, factors influencing the problems, and potential resources that can be used to determine health problem priorities and alternative solutions (McCoy, D., and Bamford, L., 1998).

Pesantren is an Islamic educational institution that provides religious education services. Pesantren usually provides dormitories for students, where many people live in one location with crowded living conditions for an extended period (UNUSA, 2023). The dense population and lack of environmental cleanliness in Pesantren can lead to scabies (Ihtiyaringtyas, S. et al., 2019). Although most research in Pesantren focuses on scabies (Ihtiyaringtyas, S. et al., 2019; Elzatillah, E., et al., 2019; Nurhidayat, et al., 2022), in reality, all diseases have the potential to spread in all populations, including Pesantren. In addition to scabies, there is pediculosis (lice infestation), which frequently affects Pesantren students due to a large number of students in one room, imbalanced sanitation facilities with the number of students, lack of ventilation, and students' beliefs in interpreting specific diseases in Pesantren as risk factors for these diseases (Rachmawaty, FJ., et al., 2018). The Pesantren environment strongly supports the transmission of diseases, and infectious diseases can lead to illness, disability, death, outbreaks, and decreased productivity.

The Ministry of Health (Kemenkes, 2021) states that diseases commonly found in Pesantren include scabies, diarrhea, dengue fever, malaria, acute respiratory infections, and tuberculosis. Other types of infectious diseases may also be found, as demonstrated in the study by Ananda I. et al. (2019), which identified an outbreak of hepatitis A in Pesantren X, Cirebon Regency, in January 2018. Therefore, the researcher aims to conduct a situational analysis of infectious diseases problems in Pesantren X. However, of all the research conducted on health within pesantren, a comprehensive overview of infectious diseases has yet to be found. Instead, the studies are directly specific to one particular disease. Hopefully, this research can help depict the infectious diseases affecting the pesantren population.

MATERIAL AND METHODS

This research uses a descriptive observational design, specifically a cross-sectional design, where the independent variable (infectious disease risk factors) and the dependent variable (infectious diseases) are captured simultaneously. The study utilizes primary data (survey through questionnaires, interview guides, and observations), while secondary data includes illness or visitation data from post-Pesantren and the nearest health center. The questionnaire instrument is handed to respondents on paper, with permission from the Pesantren authorities.

The study population comprises all students and administrators in Pesantren X Pasuruan. The estimated number of students in 2021 is 2000, we managed to have 102 individuals as the sample, determined through simple random sampling. The obtained data will be analyzed descriptively. An observation is conducted to add some information from Pondok Pesantren dormitory. Data collection is carried out from Juli – September 2023.

RESULTS AND DISCUSSION

Overview of Infectious Diseases in Pondok Pesantren X

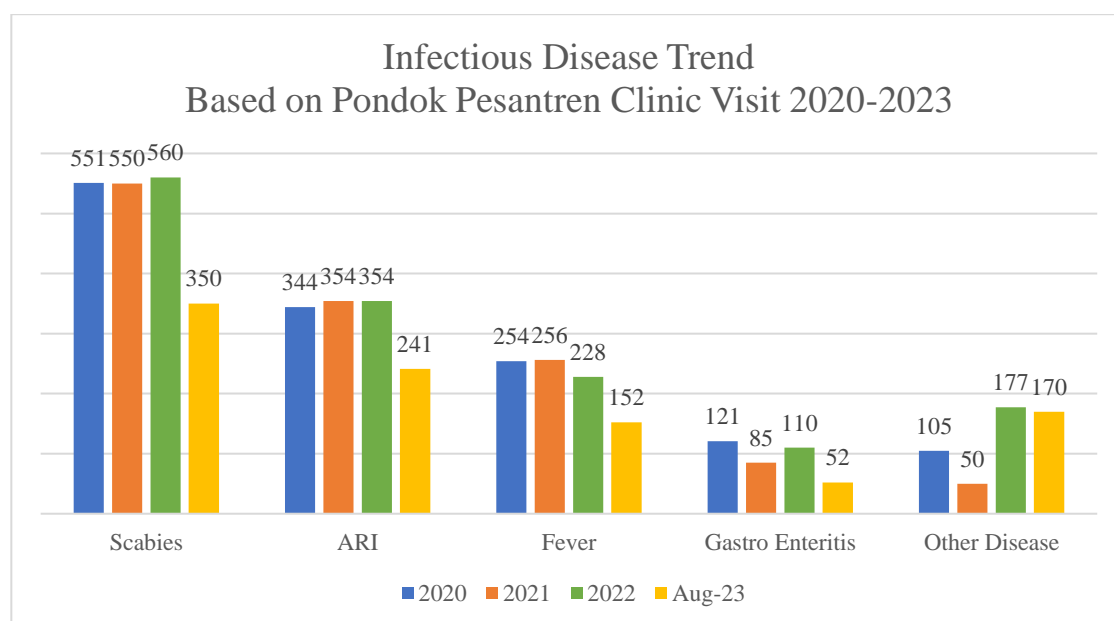


Figure. 1 Infectious Disease Trend Based on Pondok Pesantren Clinic Visits

Based on the figure.1 data from clinic visits at Pondok Pesantren X from 2020 to August 2023, the highest recorded cases of infectious diseases over the past three years are scabies. Approximately 10% of the students have been affected by scabies, and there has been no decrease in cases over the last three years. This result aligns with numerous previous studies addressing scabies as the most problematic disease in the Pondok Pesantren setting (Handari, SRT and Yamin, M., 2018; Ihtiarintyas, S., et al., 2019; Efendi, R. et al., 2020; Hijrah, MFA., et al., 2021). This phenomenon happened because students in pesantren are associated with needing to maintain cleanliness and healthy living habits such as changing towels and clothes less frequently, not directly sun-drying their laundry, and bathing together, where they are highly susceptible to infectious diseases. The lower temperature of Pasuruan City compared to other regions in East Java due to its highland location (BMKG, 2024), as well as the lack of ventilation and inadequate lighting, causing dormitories/rooms to be damp, potentially leads to the emergence of mites/scabies (Ibadurrahmi, H. et al., 2016).

The second most prevalent disease is Acute Respiratory Infection (ARI), which is consistent with many studies indicating that the high incidence of ARI in Pondok Pesantren is due to an unsupportive environment (Astuti, ND., 2018; Istifaiyah, A., et al., 2019). Based on observations in several dormitory rooms, the rooms where students reside do not meet the minimum standard of 2 m² per person, inadequate ventilation, limited lighting, and low temperature that average of East Java Province contribute to the occurrence of ARI mentioned above. Inadequate ventilation and insufficient lighting caused poor air circulation indoors. Low temperatures caused rooms to be more humid, and various viruses and bacteria could survive longer outside the host. Based on a study by Mecnas, P., et al. (2020), the COVID-19 virus has good viability and stability to survive in environments with low temperature and humidity. The influenza virus can also survive longer in cold environments (McDevitt, James., et al., 2010). Mycobacterium tuberculosis is an agent of tuberculosis, has high viability in humid, dark rooms with no direct sunlight (Krishnan, R., et al., 2022). Furthermore, supported by crowds, it causes ease of transmission of Acute Respiratory

Infections (ARI), especially for diseases transmitted directly from person to person such as COVID-19, Tuberculosis (TB), and Influenza, which are spread through droplets.

Table 1. Distribution of Symptoms Experienced by Students (Santri)

No	Symptoms	Freq (%)
1	Itching on the skin	86 (84,3)
2	Water blisters appear on the skin	52(51,0)
3	Headache	101 (99,0)
4	Fever	101 (99,0)
5	Cough	100 (98,0)
6	Cough > 2 weeks	42 (41,2)
7	Coughing up blood	5 (4,9)
8	Runny nose	99 (97,1)
9	Sore throat	89 (87,3)
10	Shortness of breath	31 (30,4)
11	Nausea	83 (81,4)
12	Vomiting	83 (81,4)
13	Diarrhoea	83 (81,4)
14	Fatigue	86 (84,3)
15	Weight loss	63 (61,8)
16	Night sweats	38 (37,3)
17	Yellowish skin	10 (9,8)
18	Yellowish eye balls	15 (14,7)
19	Itching on the head due to lice	77 (75,5)

Based on Table 1, it is known that out of 102 respondents who have studied at Pondok Pesantren, they have experienced symptoms such as: Dizziness, Fever (99.0%); Cough (98.0%); Runny nose (97.1%); Sore throat (87.3%); Itching on the skin, fatigue (84.3%); and Nausea, Vomiting, Diarrhea (81.4%). Based on the above data, the possible diseases suffered by the students include Acute Respiratory Infections (ARI), Scabies, Dengue Fever (DBD), Gastroenteritis including Typhoid and Hepatitis A. This results of survey were similar to the “records of the students visit to the clinic”, it means that the illnesses recorded in the clinic might not have reached the level of diagnosis, but are based only on symptoms. To support the data on the prevalence of infectious diseases in our boarding school, we have gathered the following data of outpatient and inpatient care history that we inquired from the respondents, as shown in Figures 2 below.

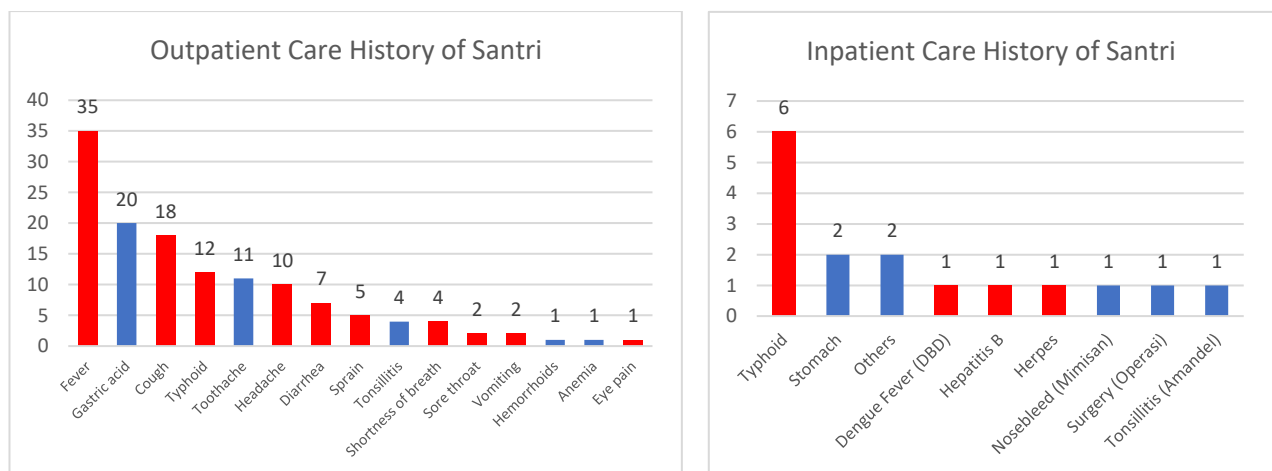


Figure. 2 Outpatient and Inpatient Care History of Santri

Based on Figure 2 above, 81 (79,4%) students admitted to outpatient care before, and 16 (15,7%) received inpatient care before during their time in Pesantren. Most of them are caused by

fever from outpatient care and typhoid from inpatient care. According to Table 1 and Figure 2, it is evident that there is a gap between the number of students experiencing symptoms of illness and those seeking medical examination, both through outpatient and inpatient care facilities. Not all individuals who are unwell choose to seek medical attention, and it is estimated that 60% of the Indonesian population prefers self-medication (Kemenkes, 2014). This trend may also be observed at this Pesantren. Thus, the population of students who do not seek medical treatment can increase the vulnerability of the surrounding students, as they may potentially transmit diseases. If left unaddressed, the boarding school authorities cannot promptly handle health problems, leading to the potential outbreak of diseases.

Determinant Infectious Disease in Pondok Pesantren X

Table 2. Risk Behaviour of Santri for Infectious Diseases in Pondok Pesantren X

Risk Behaviour	Freq	Percentage
Not using a mask when leaving the dormitory	97	95.1%
Taking a shower with friends together	96	94.1%
Borrowing clothes from other students	96	94.1%
Buying snacks every day	84	82.4%
Not airing out the mattress at least once a week	74	72.5%
Often being bitten by mosquitoes in the dormitory	72	70.6%
Eating from the same plate with other students	58	56.9%
Not using a mask when coughing and having a runny nose	48	47.1%
Using a shared bed	48	47.1%
Often being bitten by mosquitoes at school	37	36.3%
Showering once a day	27	26.5%
Having long and dirty nails	8	7.8%
Sharing bathing tools	7	6.9%
Sharing towels	5	4.9%
Not washing hands with soap after using the toilet	4	3.9%

Table 2 shows that the causes of infectious diseases in Pondok Pesantren are mainly attributed to risky behaviors among students. These behaviors include not using a mask when leaving the dormitory, which could pose a risk of contracting COVID-19 and tuberculosis (TBC). Taking a shower together with friends, borrowing clothes from other students, and not regularly airing out mattresses may contribute to the spread of scabies and pediculosis (louse infestation); this type of communicable disease risky behavior also found in another study like not washing hands with soap, sharing clothes, mattresses, and towels. (Nurmansyah, MI., 2020). Additionally, daily snack consumption, which is food that is not adequately processed and healthy, can lead to gastroenteritis, such as typhoid. Moreover, the frequent occurrence of mosquito bites in the dormitory poses a risk of contracting Dengue Fever.

CONCLUSION AND SUGGESTION

Based on our analysis of the infectious disease situation, the diseases recorded in the clinic do not encompass all illnesses experienced by the students. Common infectious diseases among students in the Pondok Pesantren include scabies, acute respiratory infections, gastroenteritis, typhoid, COVID-19, tuberculosis (TBC), and dengue fever (DBD). Therefore, it is recommended that future researchers focus on prioritizing health issues in Pondok Pesantren and create a risk factor modeling. Additionally, it is hoped that the caregivers and administrators of the Pondok

Pesantren can encourage students to avoid risky behaviors leading to infectious diseases, either through clinic programs, health programs for students, or by incorporating health education into the teaching process by teachers.

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CONFLICT OF INTEREST

We declare no conflict of interest to this paper.

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