

# ANALYSIS FOR SCABIES CONTROL AT AL HAYATUL ISLAMIYAH ISLAMIC BOARDING SCHOOL MALANG: A QUALITATIVE STUDY

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## Keywords

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## Abstract

**Background of study:** Despite various efforts such as health promotion, environmental management, and dormitory hygiene programs, scabies prevalence remains high in Islamic boarding schools. This indicates that scabies control programs must be comprehensive and ready for community-level implementation. Al Hayatul Islamiyah Islamic Boarding School in Malang has established a Health Post (POSKESTREN), yet scabies cases continue to emerge. This study aims to assess the school's capacity for scabies control and analyze it through the lens of the 5M components: man, method, material, machine, and money.

**Aims and scope of paper:** This qualitative study involved seven purposively selected informants: the head of the boarding school, four health and hygiene coordinators, and two students. Data were collected through documentation, structured interviews, and observations, and analyzed thematically based on the 5M framework. Data collection was conducted from September to October 2022.

**Methods:** This qualitative study involved seven purposively selected informants: the head of the boarding school, four health and hygiene coordinators, and two students. Data were collected through documentation, structured interviews, and observations, and analyzed thematically based on the 5M framework. Data collection was conducted from September to October 2022.

**Result:** Findings show that the school has collaborated with the Malang City Health Office and implemented hygiene-related policies and facilities, including adequate restrooms. However, it lacks a structured sanitation and screening division, a formal organizational structure for scabies control, standard operating procedures, isolation rooms, designated mattress drying areas, and specific funding for infrastructure, including washing machines needed for scabies treatment.

**Conclusion:** In conclusion, while initial efforts are in place, significant gaps hinder effective scabies control at Al Hayatul Islamiyah. Strengthening all aspects of the 5M components is essential to build institutional readiness and implement a more effective and sustainable scabies control program within the boarding school environment.

## 1. Introduction

Scabies is one of the neglected tropical diseases (NTD) in the last decade (Casulli, 2021). Its prevalence is quite high, especially in the tropics, and it mostly affects boys (Lake et al., 2021). Although it is considered an underestimated disease, scabies has the potential to cause complications such as glomerulonephritis which can cause 5% of case fatality rate and rheumatic heart disease which can cause 2-5% of case fatality rate (Chandler and Fuller, 2019).

Scabies is a disease that is transmitted through direct or indirect contact (Acute Communicable Disease Control Program, 2019). The risk factors for scabies include age, gender, personal hygiene, shared use of personal belongings, density of residence, level of knowledge, culture, and economic level (Trasia, 2021). Treatment of scabies at the community level is a challenge because it is required not only to be able to heal individuals, but also to be able to break the chain of transmission in densely populated areas.

In Muslim-majority countries, scabies is commonly found in Islamic boarding schools. Islamic boarding school is a place with a high residential density, making it increasingly difficult to break the chain of transmission of the disease. Therefore, it is not surprising that the incidence of scabies in Indonesia, a country with many Islamic boarding schools, is quite high. Ironically, the number of scabies cases has never been reported in detail to the Health Office and there is still no technical guideline for controlling scabies in Indonesia even though scabies can have bad impacts such as reducing sleep quality. Hence, it is not uncommon to find productivity disturbances in students (Hidayat et al., 2022).

Several efforts have been made to reduce the number of scabies cases in Islamic boarding schools such as providing education on clean and healthy living behavior to students (Setyaningrum et al., 2016). The peer group education method was proved providing information about personal hygiene in dealing with scabies sufferers (Prameswari and Sa'diyah, 2023). Personal hygiene and physical environmental condition are correlated with the incidence of Scabies (Yusuf et al., 2024)(Alga et al., 2023)(Nursanti, Kumalasari and Supriatin, 2024)(Karnita, Khair and Irfa'i, 2024), therefore counseling is highly necessitated, especially for students who have just adapted to their environment. This is also proven that counseling about scabies which includes how to detect scabies disease, how to prevent, and how to treat scabies disease can increase the knowledge of students at Al Ikhwan Islamic Boarding School (Ritami et al., 2022)(Lubis, Refiana and Nirmawati, 2024). However, cases of scabies are still found in Islamic boarding schools in Indonesia. This is understandable because scabies control in Islamic boarding schools requires readiness from many aspects, such as human resources, finance, methods, infrastructure, and machines. Stakeholders, health care providers, and other parties are needed to follow up on scabies prevention efforts (Nisaa and Lestari, 2024), not only in community but also in hospital (Kim et al., 2024).

Evaluation of the readiness of Islamic boarding schools in the aspects of man, method, material, machine, and money needs to be carried out in order to create a more effective and efficient scabies control. From the man aspect, it is necessary to know whether the Islamic boarding school has prepared human resources who are responsible for controlling scabies, including the environmental hygiene sector, personal hygiene, prevention, early detection, and therapy, as well as report to the Health Office. The method aspect questions whether the Islamic boarding school has made a clear organizational structure and flow chart of the roles of the entire human resources it has and has SOPs for scabies control. It is also necessary to assess whether the Islamic boarding school has prepared from the material and machine aspects, i.e., the facilities and infrastructure required to support the scabies control program. The last is the readiness of the money aspect which examines the necessity to evaluate whether the Islamic boarding school has budgeted funds for scabies control management.

Malang is a city with a large number of Islamic boarding schools, which are more than 700 schools with a scabies prevalence of 37.32% (Setyaningrum et al., 2016). Al Hayatul Islamiyah Islamic Boarding School is one of the Islamic boarding schools in Malang, precisely located in Kedungkandang District. Although this pesantren has received education about scabies disease from the Health Office and already has a poskestren (pesantren health post) as a means to check the health of students, there are still cases of scabies found in both male and female Islamic boarding schools. For this reason, it is necessary to evaluate the level of readiness of Al Hayatul Islamiyah Islamic boarding school in controlling scabies so that in the future it can reduce the incidence of scabies in the Islamic boarding school. The purpose of this study was to determine how prepared Al Hayatul Islamiyah Islamic Boarding School was in controlling scabies from the man, method, material machine, money aspects.

## 2. Method

### 2.1. Study Setting, Sampling Recruitment, Data Collection, and Data Analysis

This study employed qualitative research method. This research was conducted at Al Hayatul Islamiyah Islamic Boarding School, Kedungkandang, Malang City, East Java, Indonesia. The informants in this study consisted of four types of informants, i.e., the head of the Islamic boarding school, health and hygiene coordinators, husada students, and head of the room. The informants were selected through purposive sampling method with a selection technique based on certain criteria and considerations. The data collection techniques used in this study include observation, structured interviews conducted offline separately, and documentation. The data were collected from September to October 2022. The data were analyzed using thematic analysis. Thematic analysis is a method for identifying, analyzing, and reporting patterns contained in the data and then interpreting various aspects of 5 M management (man, method, material and machine, money).

### 2.2. Ethical statement

This This research has received ethical approval from the Health Research Ethics Committee of Politeknik Negeri Malang No: 654/KEPK-POLKESMA/2022

## 3. Results

From the research conducted, the following results were obtained which we can see in table 1

**Table 1. Characteristics of informants**

No	Informants	Sex	Age (yrs)
1	Head of the Islamic boarding school	Female	35
2	Health and hygiene coordinators	Male	20
3	Health and hygiene coordinators	Female	20
4	Head of the room	Male	17
5	Head of the room	Female	17
6	Husada student	Male	17
7	Husada student	Female	17

**Characteristics of informants**

The interviews were conducted with seven informants separately in various places consisting of one head of the boarding school, two health and hygiene coordinators (male and female), two husada students (male and female), and two heads of the room (male and female). The head of the boarding school who became the informant is the head of the female boarding house who was 35 years old. Santri is a term for students who live in Islamic boarding schools, while husada students are those who are appointed by the head of the boarding school to participate in handling *poskestren*. The husada students who became the informants in this study were 17 years old. The head of the room is the student who is appointed to be the leader in the room. The heads of the room who became the informant in this study were 17 years old. A hygiene and health coordinator is an alumni of the Islamic boarding school who is appointed by the head of the boarding school to play an active role in the cleanliness and health activities of the boarding school. The hygiene and health coordinators who were selected as the informants in this study were 20 years old.

From the results of interviews with the male husada student, the number of scabies sufferers at Al Hayatul Islamiyah Islamic boarding school has decreased a lot. The tendency for cases to increase is only for new students. However, recently, especially after a counseling was held by Malang City Health Office, the number of scabies sufferers has decreased, specifically for female students.

The results of interviews with the hygiene and health coordinator revealed that male students are more often affected by scabies than female students.

<i>"Thank God I have recovered from scabies. As I stated at the outset, scabies typically affects freshmen. There are typically still a lot of people who are impacted in the beginning of the year, and the longer they live here, the more they are aware of it. There are nine persons in one room, all of whom have had scabies. When I first started college, I also contracted scabies."</i> - Male husada student
<i>"Thank God no one has scabies in my room. It is extremely uncommon, if not vanishing. One individual I know had scabies last year, but it didn't spread to anyone else. Few students, both male and female, have this illness, and typically, new students are affected. Students who have been exposed to it as well as those who have never had it at all are both present."</i> - Female husada student
<i>"Yes, scabies education was provided. Scabies is a known illness at this school. So, my concern is how to handle it, prevent contracting scabies, and maintain personal hygiene."</i> - Hygiene and health coordinator

**Man**

From the results of interviews with the head of Al Hayatul Islamiyah Islamic boarding school, the Islamic boarding school already has a *poskestren* (*pesantren* health post). *Pesantren* health post is a form of community empowerment program in the health sector and is a form of community-based health efforts (UKBM) in Islamic boarding schools, with the principle of from, by, and for the residents of Islamic boarding schools that prioritize promotive and preventive services without neglecting curative and rehabilitative aspects under the guidance of local health centers (Fisabilillah *et al.*, 2020). The *poskestren* has received assistance from Malang City and Provincial Health Offices. From the results of the documentation, it can be observed that the Islamic boarding school has the following organizational structure: chairman, vice chairman, secretary, treasurer, and eight heads of division covering the fields of service, medicine and medical equipment, counseling, environment, drug and food supervision (POM), waste bank, and *husada* students team. However, from the interviews, the information was obtained that the *poskestren* at Al Hayatul Islamiyah Islamic Boarding School does not run a special program for controlling scabies. The program implemented at the *poskestren* is still a general health program.

## Method

*"So far, students who feel itchy only report to the head of the room, then they are taken to the poskestren. Sometimes the students themselves go straight to the poskestren if the itch doesn't go away." - Hygiene and health coordinator*

Despite this condition, Islamic boarding schools have a system to break the chain of scabies transmission through the supervision of students' personal hygiene carried out by the cleanliness of the boarding schools by providing rewards and punishments for the cleanest and dirtiest rooms. Al Hayatul Islamiyah Islamic Boarding School also applies a policy of discipline so that students get used to having a clean and healthy lifestyle, for example by implementing a cleaning schedule per room, and a schedule for bathing and washing clothes.

*"Every Thursday there is an assessment of the cleanest room. The assessment of the cleanest room ranges from the closet must be clean to clotheslines and shelves must be well arranged. If you get the dirtiest room, there will be punishment. The punishment is cleaning the trash can, the bathroom, and the boarding school environment. There is a cleaning schedule per room, for example, Monday is for Khadijah 1 (name of room), Tuesday is for Khadijah 2, and the schedule goes on until Khadijah 8. In the morning before going to school, students have to sweep the field, clean the bathroom, and clean the room. There is no cleaning service. From Monday to Sunday all students must do these cleaning activities. The schedule for washing clothes is only on Tuesday, Friday, and Sunday. If you wash your clothes outside, then there are consequences. It's part of the code of conduct that must be obeyed from the start." - Hygiene and health coordinator*

However, after triangulation of sources with students and the hygiene and health coordinator, there are still students who lack discipline in maintaining personal hygiene. This is due to the tight schedule of students, so they have difficulty managing time. In addition, the boarding school also has a rule that students are only allowed to bring a limited number of clothes. This makes students to be more diligent in washing their clothes.

*"There are students who bathe irregularly because usually in the afternoon they recite the Quran, so some have taken a shower, but some say they haven't. They say that they'll take a shower later. They are still lack of discipline because they still can't manage their time. Moreover, this year the formal school finishes at 13.45 and at 14.30 it is already the Asr call to prayer. Then, after finishing Asr prayer, they recite Surah Waqiah in the Quran, so sometimes they don't have time to take a bath in the afternoon. The provisions of the boarding school state that students can only bring 5 clothes in addition to the uniform. If they are caught bringing more clothes, and the clothes will be seized and returned to the students when they return home." - Hygiene and health coordinator*

Reporting scabies cases to the Health Office is also important so that the Health Office gets information about the number of scabies cases in the city of Malang. Although Al Hayatul Islamiyah Islamic Boarding School does not have a case reporting procedure yet, since 2020, the Malang City Health Service has held a health survey for all students every year. The results are presented by husada students through the Musyawarah Masyarakat Pondok Pesantren or MMPP forum (Islamic Boarding School Community Consultation) which is attended by the head of village, Islamic boarding school management, and representatives from the Health Service.

*"There are several surveys for individual students. The survey was conducted by husada students in the form of a questionnaire (from the Health Office). The contents of the survey are like: What is environmental cleanliness? What is personal hygiene? Do students bathe twice a day? Who carries out the environmental hygiene? Do any students suffer from itching? Then all the data is recorded. The results are presented during the MMPP by husada students." - Hygiene and health coordinator*

## Material and Machine

Al Hayatul Islamiyah poskestren has a room that is used regularly every week. Poskestren already has a partnership with a hospital in the city of Malang that assigns a doctor to check the health of students every Saturday. However, the hygiene and health coordinator of Al Hayatul Islamiyah Boarding School poskestren stated that the poskestren is rarely visited by students. According to the husada students, doctors rarely come. In addition, from observations by the research team, the poskestren looked unkempt and dirty, indicating that the place was rarely used.

*"Actually, the poskestren already has its own room. Al Hayatul already has an Memorandum of Understanding with a hospital (mentioning the name of the hospital). Every Saturday the poskestren is open, and a doctor from the hospital comes there. If there are sick students, they can be checked and treated at the poskestren but the hours are limited from 9 to 12. Outside these hours the poskestren are closed and not occupied. The doctor hasn't been here for the past few weeks, but the doctor used to come here regularly." - Hygiene and health coordinator*

Al Hayatul Islamiyah Islamic Boarding School has adequate bathrooms, consisting of 10 bathrooms for male students and 12 bathrooms for female students. Islamic boarding school does not have an adequate special area for drying mattresses, so students have to take turns drying the mattresses. Moreover, Islamic boarding schools do not yet have a special washing machine to wash clothes and equipment belonging to students who are affected by scabies. However, the Islamic boarding school has plans to buy a washing machine immediately even though it is not in the context of a scabies control program.

*"Students use foam mattresses that they brought from home. The mattresses are usually dried on the 3rd floor on Sunday. It is impossible to take all the mattresses out, so they are usually taken out alternately because if they are taken out at once, it won't look too pleasing for the guardians of the students or guests who come." - Hygiene and health coordinator*

#### Money

Efforts to control scabies require large costs. In addition to financing the training of students and teachers to increase their knowledge related to scabies prevention, early detection, and therapy, Islamic boarding schools also need to prepare the isolation rooms, spacious drying rooms, laundry officers, and special washing machines. Management of Islamic boarding schools also requires financing for poskestren operations. To date, the Islamic Boarding School has not allocated funds for all of these needs.

## 4. Discussion

Scabies control requires many divisions which include screening, therapy, sanitation, and personal hygiene. The screening division is required to detect the presence of scabies disease as early as possible. The therapy division is tasked with taking students with positive screening results to *poskestren* doctors or practicing doctors, supervising students during the treatment period in the isolation room, and reporting the number of students who are indicated or positive for scabies to Malang City Health Office. The sanitation division is also very important in the management of scabies control. This division is responsible for maintaining environmental cleanliness and specifically ensuring that the clothes and tools used by scabies sufferers do not become a source of transmission. In carrying out its duties, the sanitation division requires coordination with the special scabies laundry division which consists of trained launderer. The personal hygiene division is responsible for supervising the daily cleanliness of students such as bathing and cleaning schedules, as well as reporting to the screening division if there are students with indications of scabies.

To date, Islamic boarding schools have not prepared a screening division even though several *husada* students have received training on the symptoms and signs of scabies disease. A simple diagnosis of scabies is the burrow ink test (BIT). Early detection of scabies will provide the opportunity to stop the transmission of the disease. Symptoms of scabies can vary from mild to severe (crusty). Crusted scabies contains more mites than the classic type (Niode *et al.*, 2022). This should be used as a guide for the head of the room to make early detection of scabies. Efforts to find scabies cases take place passively, where new students report to the head of the room when the symptoms have lasted a long time or are already severe.

The existence of a therapy division is very necessary when students have been diagnosed as positive with scabies. The reason is that scabies therapy also cannot be carried out in 1-2 days, but it takes at least a week to eliminate the lice. During the treatment period, ideally the students are isolated, so as not to infect other students.

In carrying out scabies control management, the management of Islamic boarding schools need to develop policies and Standard Operating Procedures covering aspects of prevention and therapy. In the promotive aspect, it is necessary to formulate policies so that new students have clean and healthy living behavior and maintain environmental cleanliness. In the preventive aspect, it is necessary to develop Standard Operating Procedure on how to prevent healthy students from getting infected from roommates who suffer from scabies and how to detect them early if there are symptoms of scabies in students. In the therapeutic aspect, students who from the results of early detection are identified to have typical symptoms of scabies must be immediately taken to the *poskestren* or practicing doctor to get adequate treatment. Al Hayatul Islamiyah Islamic Boarding School still does not have Standard Operating Procedure to separate the sick and healthy students.

Individuals who sleep in the same residence, individuals who share a bed, and children who work in the same class or who play together are factors that greatly influence the transmission of scabies (Engelman *et al.*, 2020). For this reason, scabies treatment should be carried out not only on students who experience symptoms of scabies, but also on students who have contact with them. Because clinical signs and symptoms can develop as long as 10 weeks after the primary infestation, there is an asymptomatic period or a period during which a person is asymptomatic but can transmit the disease (El-Moamly, 2021).

Treatment of scabies requires patience because the *Sarcoptes scabiei* mites can easily transfer to other hosts even after the treatment. This could occur due to treatment that is not in accordance with the doctor's instructions and the absence of quarantine for scabies patients. Based on several studies, the first-line treatment for scabies is topical 5% permethrin cream (Dewi and Wathoni, 2017). From the results of interviews with the hygiene and health coordinator, Islamic boarding schools have never received counseling from Malang City Health Office on how to treat scabies in students who have been infected.

Clean and healthy behavior is something that must be performed in order to break the chain of scabies transmission. Al Hayatul Islamiyah Islamic Boarding School has made policies that require students to get used to a clean and healthy lifestyle, for example by making a schedule that must be obeyed by students such as cleaning the environment, bathing, and washing clothes although in practice there are still some disciplinary violations. Limiting the number of clothes is one of the rules of the boarding school that causes students to continue to wear the same clothes even though they look dirty. Scabies mites can live in the clothes worn by students which if not washed properly will cause the lice to live and have the potential to spread to other students.

According to Vasanwala, the principle of treatment in household, community, and institutional facilities includes several things, which are: 1) isolating the patient until completion of the treatment, 2) cleaning the patient's room thoroughly, 3) avoiding direct skin-to-skin contact (using protective clothing, e.g. gowns and gloves) and applying strict hand washing policy, 4) washing mattresses and patients' clothes in separate washing machines using hot water above 75°C and a hot dryer cycle, 5) applying prophylactic topical malathion 0.5% lotion for the entire household member who have contact with or health workers who take care of the patient (Vasanwala *et al.*, 2019). Underwear, clothing, towels, bed linen, and personal items such as slippers, bed jackets, and change gowns worn by the affected person in the 72 hours prior to the treatment should be washed using a hot wash cycle (>50 °C) or a hot dryer to kill the mites (Ministry of Health Malaysia, 2015). This is a formidable challenge for Islamic boarding schools which generally have limitations in terms of infrastructure.

Several infrastructures need to be prepared by Islamic boarding schools to support the control of scabies disease, including the addition of special isolation rooms for scabies patients along with the existing facilities such as mattresses and wardrobes. The boarding school also needs to prepare a large enough mattress drying area. Mattresses are a breeding ground for scabies mites. Scabies mites are often found on mattresses, pillows and bed linen (Acute Communicable Disease Control Program, 2019), so drying bedding is something that must be carried out regularly. In reality, however, not all students can dry their mattresses regularly because of limited facilities. There is no special infrastructure for drying that is wide enough to accommodate a foam mattress. The special laundry department for scabies also requires a room, a special washing machine to wash the clothes, bed linen, and towels used by people with scabies, and a mite-killing disinfectant. These things are still not available at Islamic boarding schools, but the boarding schools have planned to have them in the future.

## 5. Conclusion

The Islamic boarding school Al Hayatul Islamiyah is already well prepared in the following areas: already has a poskestren organizational structure with several divisions necessary for scabies control (personal hygiene division and therapy division). However, there are several divisions that must be set up, including the sanitation and screening divisions. Despite the fact that it doesn't appear to be well organized, the Islamic boarding school already has a poskestren and functional restroom facilities. There is a need for a Standard Operating Procedure for cleaning clothing and other items that have been contaminated with scabies lice. In order to lower the occupancy density, the boarding school still need new infrastructure and facilities for isolation rooms, areas for drying mattresses, and additional rooms for students. It is necessary to allocate money for infrastructure and special washing machines for scabies.

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## Conflict of Interest Disclosure

All authors declare that they have no conflicts of interest.

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