



Analysis of The Factors Influencing The Occurrence Of Scabies At The Hidayatul Mubtadiin Islamic Boarding School Plumpung Village , Plaosan, Magetan Regency In 2023

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Abstract. Scabies is an skin disease caused by mites *sarcoptes scabiei*. In Magetan Regency, scabies in 2019 was 5.0%, in 2020 it was 5.27% (Magetan Health Office), in 2021 it was 6.1% (Plaosan Health Center). Based on a preliminary study at the Plaosan Health Center in 2023, it was found that 58 (26.5%) students had scabies. Research to determine the factors that influence the incidence of scabies at Hidayatul Mubtadiin Islamic Boarding School, Plumpung, Plaosan, Magetan. This type of research uses descriptive methods. The research variables are environment, behavior and health services. Location of the Hidayatul Mubtadiin Islamic Boarding School, Plumpung, Plaosan, Magetan. The total population is 219 students. The samples taken were students suffering from scabies, 58 respondents with inclusion criteria. The sampling technique uses *purposive sampling*. Data were collected using questionnaires, observations and data analyzed descriptively. The results showed that the factors that influence scabies at the Hidayatul Mubtadiin Islamic Boarding School include: 1) Environmental factors do not affect scabies (63.6%), 2) Behavioral factors influence the occurrence of scabies (67.3%), knowledge is not good (72.4%), attitude is not good (60.4%), actions are not good (66.7%), 3) Health service factors are not good (69.0%). The behavior of students at the Hidayatul Mubtadiin Islamic Boarding School needs to be improved by increasing information and providing health education, so that students know what scabies is, how it is transmitted, how to prevent it and how to treat it. And health services must be activated so that sick students are immediately given treatment.

Keywords: Scabies, Environment, Behavior, Health Services

1 Background

Scabies is an infectious skin disease caused by the homoni variant *sarcoptes scabiei* mite measuring approximately 0.4 mm and is an important public health problem [1–3]. This disease remains one of the most common skin diseases in developing countries

with tropical and subtropical climates[4]. Globally, It is estimated that more than 200 million people are still suffering from scabies worldwide [5]. Factors in the spread of this disease include major global public health problems that can attack people from all low socio-economic levels, poor personal hygiene, limited access to clean water, unclean environments, unhealthy behavior, and overcrowding [6–8]. This disease is spread by mites from the Sarcoptidae through direct contact through shaking hands, while indirect transmission through contaminated objects occurs through sharing clothes, towels, pillows, bed sheets and blankets [9][10]. This disease is closely related to personal hygiene and densely populated living conditions. Kudas thrive in humid environments with limited sunlight exposure. Human scabies is a neglected tropical skin disease that affects all age groups and backgrounds and is characterized by itching at night[11]. Both men and women experience the majority of scabies cases in children, but it usually does not occur in adults and older children[12][13]. This disease mainly attacks areas with a thin stratum corneum and few hair follicles, with typical areas of skin involvement such as Skin folds such as the armpits, groin, inner thighs and palms are the favorite habitat of the *Sarcoptes scabiei* mite [2].

Hendrick L. Bloom's theory formulates that health is a highly significant aspect of human life, characterized by a state of well-being. Environmental factors, behaviors, genetics, and healthcare services influence health status[14]. The presence of Hendrick L. Bloom's theory is relevant to the ease of scabies transmission due to unhygienic environmental conditions and lifestyle behaviors. Islamic boarding schools are places that accommodate numerous community groups with high population density, making them susceptible to disease transmission such as scabies due to the practice of students transferring mites to their belongings, thus creating a chain of infection that can affect all dormitory members through shared prayer items, communal bath tools, and personal belongings. If personal hygiene and the environment are not maintained, scabies transmission can occur. In fact, some cases of scabies in boarding schools proliferate in humid environments, poor sanitation, and inadequate student behavior. Occurrences of scabies in Islamic boarding schools will continue if the behavior and mindset of the students remain unchanged[15].

Based on previous researchers regarding risk factors for scabies at the Binaul Umamah Bantul Islamic Boarding School in 2018, this research used a case control analytical survey design. The sample was 100 respondents, 50 cases and 50 controls. Using the chi square test. The research variables are knowledge and residential density. There is no relationship between knowledge, personal hygiene, nails, hands, bedding and density of residence with the incidence of scabies[16].

Based on previous researchers regarding the analysis of scabies factors suffered by students at the Al-Hasan Islamic Boarding School, Ponorogo in 2018. The research method is quantitative descriptive. The variable used is environmental sanitation. Samples were taken using simple random sampling. The sample obtained was 70 respondents. Using a questionnaire and Spearman's rho test. There is a relationship between environmental sanitation factors and scabies[17].

The prevalence of scabies in Indonesia is 4.6% - 12.95% and is the third of the 12 most common skin diseases that occur in the community. Based on the latest data from 2013, there has been a decline in scabies cases in Indonesia year after year, ranging from 3.9% to 6%[4].

In 2015, the province of East Java reported an incidence of scabies affecting 72,500 individuals (0.2%) out of a total population of 36,269,500.

In 2019, skin disease ranked 10th among the most prevalent diseases per community health center (Puskesmas) in Magetan Regency, with an incidence rate of 5.0%. In 2020, this rate increased to 5.27% according and in 2021, it further rose to 6.1% as reported.

Pondok Pesantren Hidayatul Muftadiin, there are a total of 219 students, consisting of 132 males and 87 females, aged between 10 to 17 years. Based on the results of a preliminary study at the Hidayatul Muftadiin Islamic Boarding School is known there are students who suffer from diseases scabies as many as 58 (26.5%) which consisted of 44 male students and 14 female students. Results of interviews with administrators pondok that 15 students already checked into the plaosan health center (already recorded in the medical record Community Health Center) and 43 students have not examined at the Plaosan Health Center. Lack of personal hygiene, behavior clean and healthy life for students, like dirty clothes hanging on room, drying clothes that are not exposed to sunlight, borrowing from each other goods. Student room conditions the lighting is not bright enough, air humid, lack of air circulation. One room measuring 5 x 5 m inhabited for 6 to 10 students, leading to cramped sleeping arrangements. In 2019, Hidayatul Muftadiin Islamic Boarding School established a healthcare facility called "POSKESTREN" (*Pesantren* Health Post). POSKESTREN provided limited medical supplies to the students. However, since 2022, POSKESTREN has not been active, so if a student falls ill, especially with scabies, they are taken to Plaosan Community Health Center.

The research objective is to determine the factors influencing the occurrence of scabies at Hidayatul Muftadiin Islamic Boarding School in Plumpung Village, Plaosan, Magetan.

2 Research Methods

This research uses descriptive research. The variables used in the research are environmental, behavioral and health services implemented at the Hidayatul Muftadiin Islamic Boarding School, Plumpung Village, Plaosan, Magetan. The total population was 219 santri and the sample used in the research was 58 (26.5%) santri who suffered from scabies from health center medical record data. The sampling technique used was purposive sampling. Data collection methods are carried out through the use of questionnaires, observation and documentation. Data is presented in tabular form and analyzed descriptively. The statistics used are descriptive.

The research phase carried out:

2.1 Data collection technique

Observation. Observation is a technique for collecting data or information in a way where researchers observe activities directly at the research object. Observations are carried out to obtain a real picture of an event or occurrence to answer research questions

Questionnaire. A questionnaire is a data collection method that is carried out by giving or asking a series of written questions to respondents without any coercion. The questionnaire used in this research is

- a. Scabies Incidence Data
- b. Questionnaire regarding environmental sanitation, which is divided into 4 parts:
 - a) Humidity Assessment Sheet Questionnaire
 - b) Space cleanliness assessment sheet questionnaire
 - c) Residential Density Assessment Sheet Questionnaire
 - d) Water Supply Assessment Sheet Questionnaire
- c. The student behavior questionnaire is divided into 3 parts:
 - a) Knowledge Assessment Sheet Questionnaire
 - b) Attitude Assessment Sheet Questionnaire
 - c) Action Assessment Sheet Questionnaire
- d. Health Service Assessment Questionnaire Sheet

Data processing. The data obtained regarding the data problems to be researched. Data analysis is all data that is sorted in a systematic arrangement and updated from the data obtained. The data obtained is then processed using the following steps:

- a. Data Editing
Data editing is to determine whether the data obtained is good enough for further processing. Data collection was carried out through the editing stage by filling out a questionnaire and collecting data.
- b. Data Coding
Coding is giving code to each variable, having data information that will be analyzed. To differentiate data based on character.
 - a) Coding the Scabies variable:
 - No Sufferers = 1
 - Sufferers = 2
 - b) Coding the Environmental Condition variable
To measure environmental conditions using the Guttman scale
Does not meet the requirements = 1
Fulfills condition = 2
 - c) Coding Behavior variables
 1. Knowledge
Measuring knowledge if respondents answer the statement:
Don't Know = 1
Know = 2
 2. Attitude
Measuring attitudes when respondents answer the statement:
Disagree = 1
Agree = 2
 3. Action
Measuring action when respondents answer the statement:
Didn't do = 1
Doing = 2

- d) Coding the Health Services variable
Measuring environmental conditions using the Guttman scale
No = 1
Yes = 2
- c. Data entry
Data entry is entering respondents' answers in the form of numbers or letters and transferring them to a data processing program on the computer.
- d. Scoring
Scoring is the process of giving value assessments in the form of numbers to obtain data from questions that respondents will answer. This research provides a score on the responses of respondents.

Data analysis.

This analysis aims to process data by explaining and describing the data (population sample) that has been collected to make conclusions based on the characteristics of each research variable. The parameters of these variables are analyzed using descriptive tests and the processed data can be presented in the form of a frequency distribution table.

3 Result

The results of research on frequency distribution based on environment at the Hidayatul Muftadiin Islamic Boarding School in 2023 are presented in Table 1.

Table 1. Frequency Distribution Based On Environment At The Hidayatul Muftadiin Islamic Boarding School In 2023

Environmental	Score	Frequency (N)	Percentage (%)
Influential	1	32	36.4%
Not Influential	2	56	63.6%
Total		58	100%

Based on research result in Table 1. At the Hidayatul Muftadiin Islamic Boarding School, the results were that (63.6%) the environment had no influence on the occurrence of scabies and (36.4%) the environment had an influence on the occurrence of scabies. The results of frequency distribution research based on the knowledge of students at the Hidayatul Muftadiin Islamic Boarding School in 2023 are presented in Table 2. Based on the research results in Table 2, it shows that the respondents' knowledge about the occurrence of scabies, namely 7 respondents (12.1%) had very little knowledge, 42 respondents (72.4%) had little knowledge, 7 respondents (12.1%) had moderate knowledge, and 2 respondents (3.4%) had good knowledge. The results of frequency distribution research based on the attitude of students at the Hidayatul Muftadiin Islamic Boarding School in 2023 are presented in show Table 3.

Table 2. Frequency Distribution Based On Knowledge At The Hidayatul Mubtadiin Islamic Boarding School In 2023

Knowledge	Score	Frequency (N)	Percentage (%)
Very Poor	1	7	12.1%
Poor	2	42	72.4%
Moderate	3	7	12.1%
Good	4	2	3.4%
Very Good	5	0	0%
Total		58	100%

Table 3. Frequency Distribution Based On Attitude At The Hidayatul Mubtadiin Islamic Boarding School In 2023

Attitude	Score	Frequency (N)	Percentage (%)
Very Poor	1	10	17.2%
Poor	2	35	60.4%
Moderate	3	9	15.5%
Good	4	3	5.2%
Very Good	5	1	1.7%
Total		58	100%

Based on the research results in Table 3, it shows that 10 students (17.2%) had a very bad attitude towards scabies, 35 students (60.4%) had a poor attitude, 9 students (15.5%) had a moderate attitude, There were 3 students (5.2%) with good attitudes and 1 student (1.7%) with very good attitudes. The results of frequency distribution research based on the action of students at the Hidayatul Mubtadiin Islamic Boarding School in 2023 are presented in show Table 4

Table 4. Frequency Distribution Based On Action At The Hidayatul Mubtadiin Islamic Boarding School In 2023

Action	Score	Frequency (N)	Percentage (%)
Very Poor	1	5	8.6%
Poor	2	40	69%
Moderate	3	7	12.1%
Good	4	4	6.9%
Very Good	5	2	3.4%
Total		58	100%

Based on the research results in Table 4, it shows that in expressing students' actions regarding scabies, 5 students (8.6%) had very bad actions, 40 students (69.0%) had bad actions, 7 students (12.1%) had bad actions. currently. , 4 students (6.9%) had good actions and 2 students (3.4%) had very good actions. Frequency results based on conclusions from the knowledge, attitudes and actions of students at the Hidayatul Muftadiin Islamic Boarding School in 2023 are presented in show Table 5

Table 4. Frequency Distribution Based On Behavior Domain At The Hidayatul Muftadiin Islamic Boarding School In 2023

Behavior Do- main	Percentage (%)	Score	Category
Knowledge	72.4%	2	Poor
Attitude	60.4%	2	Poor
Action	69%	2	Poor
Total	201.8%	6	Poor
Average	67.3%	2	Poor

Based on the research results in Table 5, regarding student behavior regarding scabies, the average behavior results, namely the level of knowledge, attitudes and actions, were found to be 67.3%. Frequency results health services at the Hidayatul Muftadiin Islamic Boarding School in 2023 are presented in show Table 6

Table 5. Frequency Distribution Based On Health Service At The Hidayatul Muftadiin Islamic Boarding School In 2023

Health Services	Score	Frequency (N)	Percentage (%)
Poor	1	14	70%
Good	2	6	30%
Total		20	100%

Based on the research results in table 6, the health services at the Hidayatul Muftadiin Islamic Boarding School are said to be poor (70.0%)

4 Discussion

4.1 Environmental

Based on Table 1, it is known that the environment at Pondok Pesantren Hidayatul Muftadiin falls into the category of meeting requirements with a percentage of 63.6%. Out of the 44 statements, it can be concluded that the dormitory environment meets the criteria in terms of water supply and room cleanliness (for studying, activities, and worship). Through researcher observation, it was found that the water provided for students is sourced directly and adequately supplied to their bathrooms, and the facilities in

study, activity, and worship areas exhibit good environmental conditions with clean surroundings in the buildings. However, a favorable environment doesn't necessarily prevent the spread of scabies. The boarding school also has areas that don't meet the requirements in terms of humidity, cleanliness of resting rooms, and population density. Unfavorable environmental conditions were observed, such as humidity levels in the students' rooms ranging from 40-60%, causing the air to feel damp. The population density is notable, as dormitories measuring 5 x 5m are occupied by 6-10 students, and the cleanliness of the students' resting rooms is poor due to infrequent cleaning and piles of clothes in the rooms. This study aligns with previous research, conducted.

Which indicated that there is no significant relationship between environmental sanitation and scabies. Having adequate environmental sanitation does not lead to a significantly higher or lower spread of scabies[18].

Based on the research findings and existing theories, the researcher assumes that environmental sanitation refers to an environment free from disease transmission, allowing inhabitants to maintain a certain degree of health. Approximately 80% of the causes of diseases in the boarding school are attributed to the environment. Environmental health requirements encompass general sanitation, basic sanitation, sleeping area cleanliness, and humidity levels [19].

In conclusion, the boarding school's environmental sanitation is relatively good in terms of its structural condition. A favorable environment creates comfort for the students and thus the school continues to pay attention to its surroundings. However, there are still areas that are not satisfactory, such as unclean student rooms with wall markings, high room density that accelerates the transmission of scabies, and humid conditions in student rooms. To improve environmental sanitation, the school conducts observations to address areas that need improvement.

4.2 Behavior

Knowledge. Based on Table 2, it is known that the level of knowledge was 72.4% of the 58 respondents studied. From the data collected by researchers, most of the respondents' level of knowledge was in the "poor" category. This is based on interviews with students, it was found that the high incidence of scabies in Islamic boarding schools is caused by the students' low knowledge about scabies prevention[20]. Their poor knowledge is caused by a lack of information received. While in the dormitory, students are not allowed to bring cell phones or any electronic devices. As a result, they have limited access to health information and cannot search for information, especially regarding scabies – its definition, transmission, prevention and treatment. The absence of exposure to health information about scabies is the cause of their low knowledge. Their understanding is limited to the fact that scabies refers to red spots and itching, which they believe will heal naturally with time. Local health officials and dormitory administrators also do not provide sufficient information about scabies[21]. Therefore, providing information about scabies to students is very important, because inadequate information can lead to a higher prevalence of scabies, especially because they live under the same roof as many other students, making the spread of scabies easier.

This research is in line with a previous study, which indicated that out of 45 respondents, 32 (88.9%) had poor knowledge. This was attributed to the lack of

information about scabies among the students and the influencing factors, primarily related to knowledge. From the research findings and existing theories, the researcher assumes that knowledge is the outcome of understanding and taking actions regarding a specific subject. Knowledge influences an individual by leading to behaviors.

According knowledge refers to what is known by individuals in relation to health and illness, such as diseases (causes, transmission, prevention), sanitation, healthcare services, and so on. Knowledge can also be influenced by factors such as age, education, social background, culture, and more.

In conclusion, the lack of knowledge among students can pose a risk in terms of influencing the occurrence of scabies, as insufficient information leads to limited knowledge. Efforts to enhance the knowledge of respondents in preventing scabies are made by the administration of Pondok Pesantren through organizing educational sessions or providing information about scabies.

Attitude. Based on Table 3, it is revealed that the attitude of the respondents is 60.4% out of the 58 respondents studied. From the data collected by the researcher, the majority of respondents' attitude levels are categorized as "poor". This is caused by the tendency of students' attitudes in Islamic boarding schools to be influenced by their inadequate knowledge. Lack of knowledge can have an impact on the decision-making process in taking action to prevent the transmission of scabies. Students may not be worried about the spread of scabies transmission to fellow students. The high prevalence of negative attitudes among students is also influenced by the dormitory environment itself, especially by their peers. If someone has a negative attitude in maintaining a healthy lifestyle, the attitudes and behavior towards seeking treatment can delay appropriate treatment and close the possibility of affecting the person. others, causing unhealthy habits to continue to be carried out by students in the Islamic boarding school environment. Based on an interview with one of the students, it was discovered that they had difficulty maintaining clean and healthy living habits because they were used to dormitory routines and had limited free time to carry out these habits, such as rarely cleaning their rooms and ignoring cleanliness. their sleeping area. This can worsen the spread of scabies[22].

This research aligns with the findings, which indicated that out of 25 respondents, 50.0% had negative attitudes. This suggests that students still possess a careless attitude towards personal hygiene and the environment in the pesantren. From the research findings and existing theories, the researcher assumes that attitude is a component that supports behavioral change related to preventive actions against diseases and provides rational thoughts towards health-related behaviors. Attitude is a closed response of an individual towards a specific object, involving personal opinions and emotions. The attitudes of students play a crucial role in preventing scabies in the pesantren environment, which requires personal hygiene and healthy behavior.

In conclusion, students with poor attitudes are more susceptible to scabies than those with positive attitudes. Efforts to improve attitudes include encouraging students to adopt clean and healthy lifestyles through individual awareness. Dormitory administrators should also provide guidance to students on maintaining clean and healthy lifestyles.

Action. Based on Table 4, it is revealed that the level of actions taken by respondents is 69.0% out of the 58 respondents studied. From the data collected by the researcher, the majority of respondents' actions are categorized as "poor". This is because the students still do not pay attention to personal hygiene and environmental cleanliness. During interviews with one of the respondents, this fact was confirmed, as many of the students still engage in poor actions, such as sharing clothes or personal items, infrequent room cleaning, rarely sun-drying their bedding, not taking two showers a day, and even worse, not seeking treatment when affected by scabies. Additionally, there is a lack of adequate facilities for the health of the students[23].

This research aligns with the finding. Which indicates a correlation between actions and scabies. Student actions are still lacking in maintaining environmental and personal hygiene. This is because many students underestimate small things in their surroundings. From the research findings and existing theories, the researcher assumes that actions are the activities undertaken by an individual to improve the situation they are facing with steps that align with their planned approach. Actions involve changing one's habits after receiving stimuli or adapting to environmental changes both from within and outside the body.

In conclusion, students with poor actions are more susceptible to scabies than those with positive actions. Efforts to improve student actions involve paying thorough attention to personal hygiene and environmental cleanliness as a preventive measure to avoid scabies. Dormitory administrators establish schedules and rules for students, and if a student contracts a disease, they should immediately seek treatment to prevent its spread to others.

Behavior. Based on Table 5, it is evident that the respondents' behavior towards several factors influencing the occurrence of scabies mostly falls under the "poor" criteria, accounting for 67.3% of the 58 respondents surveyed. The average results of respondents' knowledge, attitudes, and actions suggest that most of them lack information regarding factors that can cause scabies, the transmission of scabies, prevention methods, and treatment. This lack of information is compounded by the inadequate provision of facilities within the boarding school to support the health of the students. From the research findings and existing theories, the researcher assumes that behavior is an individual's observable and recorded actions or reactions towards something, which can then become a habit. This can be either noticed or unnoticed by others. Efforts to enhance student behavior towards scabies involve cultivating habits of maintaining personal hygiene and environmental cleanliness. Additionally, seeking information about scabies from mass media or health education sources and the dormitory administration might provide adequate facilities to support the students' health.

4.3 Health Service

Based on Table 6, it is evident that health services at Pondok Pesantren Hidayatul Mubtadiin fall under the criteria of "poor", with a percentage of 70%. This is due to the inadequate functioning of the local health post (poskestren), which has not been reactivated by the administration of the dormitory. As a result, there are no health education

activities regarding scabies. The health post at the dormitory only provides necessary medicines to students who are sick, offering available medications without the presence of a proper healthcare clinic. Students suffering from scabies are only given medication by the health post without being immediately referred to the nearest healthcare facility. Consequently, they either wait for the disease to subside on its own or seek medical attention when the condition worsens. According to interviews with dormitory administrators, there was an initial attempt to establish a health post, but it was not continued due to several reasons. Therefore, the dormitory administration lacks information about health education. This situation can lead to the unchecked spread of scabies among other students. This study aligns with [23], which highlights that scabies is a factor in certain Islamic boarding schools lacking health posts. When students fall ill, there is no immediate follow-up action from the school administration[24].

Based on the research findings and existing theories, the researcher assumes that Health Services encompass a range of health-related services involving programs, guidance, or education about health for individuals. According to the Ministry, a health post (*poskestren*) is a community health effort within the dormitory environment that prioritizes promotive (enhancement), preventive (prevention), curative (treatment), and rehabilitative (health restoration) services in promoting a clean and healthy lifestyle[25].

In conclusion, Islamic boarding schools without health service (*poskestren*) are at greater risk of scabies due to the lack of specialized care for students with scabies. Efforts to improve health services include reactivating the health post that was previously inactive and establishing health awareness teams among the student population. This would enable prompt assistance for sick students. Collaborations with healthcare providers could also facilitate health education sessions about diseases.

5 Clonclusion

The environment is categorized as not influencing the occurrence of scabies (63.6%). Behavioral factors are categorized as "poor" at (67.3%), and they influence the occurrence of scabies. And Health services are categorized as not good at (70.0%), and they influence the occurrence of scabies.

The behavior of students at the Hidayatul Mubtadiin Islamic Boarding School needs to be improved by increasing information and providing health education regarding scabies so that students know what scabies is, how it is transmitted, how to prevent it and how to treat it. And health services were immediately reactivated so that sick students were immediately given treatment.

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