

## THE RELATIONSHIP BETWEEN PERSONAL HYGIENE AND ENVIRONMENTAL SANITATION AND THE SCABIES INCIDENT AT THE MINHAJUT THULLAB ISLAMIC BOARDING SCHOOL

Fitriani zainuddin<sup>1</sup>, Kadek ayu karuniawati<sup>1</sup>, irmayanti<sup>1</sup>

<sup>1</sup>Master of Public Health Study Program, Faculty of Public Health Sciences, Mandala Waluya University

### ARTICLE INFO

Received: 21 June 2024

Revised: 19 July 2024

Accepted: 07 Augt 2024

#### Keywords:

Hygiene, sanitation, scabies, Islamic boarding schools

#### Corresponding Author:

Fitriani zainuddin

#### Email:

Copyright © 2024 by author(s)

This work is licensed under the Creative Commons Attribution International License (CC BY 4.0). <http://creativecommons.org/licenses/by/4.0/>



### ABSTRACT

*Based on data from the Andoolo Utama Health Center, scabies cases in the last 3 years have continued to increase. In 2018 there were 35 cases, in 2019 it increased to 46 cases, and in 2020 it reached 57 cases, with the most frequent reporting figures occurring in children aged 10-12 years. This study aims to determine the relationship between personal hygiene and environmental sanitation and the incidence of scabies in students at the Minhajut Thullab Islamic Boarding School, Buke District, South Konawe Regency. This study uses a cross-sectional study design with a population of 254 people and a sample of 72 respondents. The results of the study through the chi-square test showed that the variable of personal hygiene of clothing hygiene did not have a significant relationship with the incidence of scabies ( $p$ -value=0.407). However, the variable of wastewater disposal facilities showed a significant relationship with the incidence of scabies ( $p$ -value=0.014), while the variable of sewage disposal facilities (latrines) did not have a significant relationship ( $p$ -value=0.198). It is recommended that students pay more attention to personal hygiene, such as washing clothes regularly and bathing at least 3 times a day to prevent the spread of scabies. In addition, Islamic boarding school managers need to improve the maintenance of basic sanitation facilities, including wastewater disposal facilities and latrines, to comply with health standards to reduce the risk of transmission of scabies in the Islamic boarding school environment.*

### INTRODUCTION

Scabies is a skin disease caused by *Sarcoptes scabiei* Var *hominis*. At any time, sufferers cannot resist itching caused by the presence of mites (scabies mites) under the skin as a result of which sufferers often scratch it because they cannot stand the itching caused by mites. Scabies cause suffering in many people because they cannot sleep peacefully at night due to itching (8).

According to WHO, scabies is a significant disease for public health because it is the leading cause of global morbidity and mortality. WHO estimates that every year more than 300 million people worldwide are affected by scabies. The prevalence tends to be higher in developing countries, tropical and urban areas, especially in densely populated areas. The prevalence of scabies is higher in children and adolescents compared to adults (WHO, 2019). According to data from the Indonesian Ministry of Health, the prevalence of skin diseases in Indonesia in 2018 was 8.46%. In 2019, there was an increase of 1.54% so that the prevalence of skin diseases reached 9%. In

2020, it was reported that the prevalence of this disease decreased by 2.9% (7). Based on the health profile of Southeast Sulawesi Province in 2018, the prevalence of scabies disease was 3.35%, in 2019 the prevalence of scabies disease was 4.47%, and in 2020 the prevalence of scabies disease was 4.71% (2).

Based on data obtained from the South Konawe Regency Health Office, in the last 3 years the incidence of skin diseases and subcutaneous tissue has always been included in the top 5 diseases. In 2019 it was 14.02%, in 2020 it was 8.12% and it increased again in 2021 by 9.57%. The highest prevalence is in Buke District with the number of cases from 2018 to 2020 is 138 cases (Konsel Regency Health Office, 2022). Puskesmas is at the forefront of disease prevention (1). Based on data from the Andoolo Utama Health Center, it shows that there were 35 cases of scabies in 2018, 46 cases in 2019 and 57 cases in 2020 with the most frequent reporting figures occurring in children (10-12) years old (Andoolo Utama Health Center, 2021).

The large number of students who live in the Minhajut Thullab Islamic boarding school causes high residential density and affects the health of the students. One of the health problems that occurs is the existence of scabies. Scabies disease often occurs in people who live in groups or closed environments such as orphanages, quarantine hospitals, Islamic boarding schools, prisons, army barracks and so on. Based on a preliminary survey conducted at the Minhajut Thullab Islamic Boarding School, Buke District, South Konawe Regency. It is known that some student residential rooms are not fully compliant with health standards. For example, the comparison of the size of the ventilation with the floor area. In addition, the results of observations in the initial survey also showed that the students had a shared bed space, a shared bath with 2 5x2 bathtubs/bath, the habit of hanging clothes in piles, using soap and toiletries together alternately. This study aims to determine the relationship between personal hygiene and sanitation of the student residential environment and the incidence of scabies in students at the Minhajut Thullab Islamic Boarding School, Buke District, South Konawe Regency.

## METHODOLOGY

This research was conducted using a cross sectional design. The population of this study is all students of the Minhajut Thullab Islamic boarding school, Buke District, South Konawe Regency. The number of students of the Minhajut Thullab Islamic boarding school based on the results of the preliminary study is 254 people. The sample in this study is some students of the Minhajut Tallulab Islamic boarding school, the number of samples in this study is 75 respondents.

The sampling technique used in this study is *proportional random sampling*, which is sampling based on certain considerations such as population characteristics or known characteristics using gender matching. The data analysis to be carried out is univariate and bivariate analysis. The data is presented in the form of a sequence table and is described in the form of a narrative for further discussion.

## RESULTS AND DISCUSSION

**Table 1.** Distribution of respondents based on Characteristics of Respondents in cottages Minhajut Thullab Islamic Boarding School

Respondent Distribution	n	%
Age		
11-15 Years	48	64,4
16-20 Years	27	35,6
Gender		
Woman	35	46,7
Man	40	53,3

<b>Total</b>	<b>75</b>	<b>100</b>
--------------	-----------	------------

Based on table 1, the characteristics of age respondents show that of the 75 respondents, the largest group is 11-15 years old, namely 48 respondents (65.4%) and the smallest group is 16-20 years old, namely 27 respondents (35.6%). Based on table 1, the gender characteristics of respondents show that of the 75 respondents, the largest group is male, namely 35 respondents (46.67%) and the smallest group is female, namely 40 respondents (53.33%).

**Table 2.** Distribution of respondents based on *hygiene* and sanitation in the cottage Minhajut Thullab Islamic Boarding School

<b>Respondent Distribution</b>	<b>n</b>	<b>%</b>
<i>Hygiene Clothing Hygiene</i>		
<i>Poor Hygiene</i>	27	36
<i>Good Hygiene</i>	48	64
<i>Wastewater Disposal Facilities</i>		
Bad	29	38,7
Good	46	61,3
<i>Sewage Disposal Facilities</i>		
Bad	30	40,0
Good	45	60,0
<b>Total</b>	<b>75</b>	<b>100</b>

Source: Primary Data, 2022

The table above shows that out of 75 respondents, there are 27 respondents (36%) who have poor *clothing hygiene* because they do not pay attention to the cleanliness of their clothes. Meanwhile, the number of respondents with a good *clothing hygiene* category because they routinely pay attention to the cleanliness of their clothes is 48 people (64%).

Based on table 2 of the results of the study, distribution data was obtained, namely from 75 respondents, there were 29 respondents (38.7%) who had poor sanitation of wastewater disposal facilities because they did not pay attention to the cleanliness of wastewater disposal facilities (open and stagnant). Meanwhile, the number of respondents with a good sanitation category of wastewater disposal facilities because they routinely pay attention to the cleanliness of wastewater disposal facilities is 46 people (61.3%).

Based on Table 2, the results of the study obtained distribution data, namely from 75 respondents, there were 30 respondents (40%) who had poor sanitation of sewage disposal because they did not pay attention to the cleanliness of the sewage disposal facilities (using soap/madi utensils together and not washing their hands after defecating). Meanwhile, the number of respondents with a good sanitation category of sewage disposal facilities because they routinely pay attention to the cleanliness of sewage disposal facilities is as many as 45 people (60%).

**Table 3.** Respondents' relationship based on *hygiene* and sanitation at the Minhajut Thullab Islamic boarding school

<b>Variable</b>	<b>Scabies Incident</b>						<b>P-Value</b>
	<b>Suffer</b>		<b>Not Suffering</b>		<b>Total</b>		
	<b>n</b>	<b>(%)</b>	<b>n</b>	<b>(%)</b>	<b>n</b>	<b>(%)</b>	
<b>Personal Hygiene Clothing Hygiene</b>							
Bad	11	14,7	16	21,3	27	36	0,407

Good	15	20	33	44	48	64	
<b>Total</b>	<b>26</b>	<b>34,7</b>	<b>49</b>	<b>65,4</b>	<b>75</b>	<b>100</b>	
<b>Disposal Facilities</b>							
<b>Wastewater</b>							
Bad	15	20	14	18,7	29	38	0,014
Good	11	14,7	35	46,7	46	61,3	
<b>Total</b>	<b>26</b>	<b>34,7</b>	<b>49</b>	<b>65,3</b>	<b>75</b>	<b>100</b>	
<b>Sanitation Facilities</b>							
<b>Dirt Disposal</b>							
Enough	13	17,3	17	22,7	30	40	0,198
Less	13	17,3	32	42,7	45	60	
<b>Total</b>	<b>26</b>	<b>34,6</b>	<b>49</b>	<b>65,4</b>	<b>75</b>	<b>100</b>	

*Source : Primary Data, 2022*

As for the relationship between Personal Hygiene and Clothing Hygiene to the incidence of scabies in students at the Minhajut Thullab Islamic Boarding School, table 3 shows that there were 23 respondents with poor personal hygiene and clothing hygiene, of which 12 (16%) respondents suffered from scabies and 11 (14.7%) respondents did not suffer from scabies. Meanwhile, there were 52 respondents with good personal hygiene and clothing, of which 8 (10.7%) respondents suffered from scabies and 44 (58.7%) respondents did not suffer from scabies. Based on the results of chi-square, it shows a value of  $p\text{-value}=0.407 (>\alpha 0.05)$ , meaning that there is no significant relationship between personal hygiene and clothing hygiene and the incidence of scabies at the Minhajut Thullab Islamic Boarding School.

As for the relationship **between wastewater disposal facilities** and the incidence of scabies in students at the Minhajut Thullab Islamic Boarding School, table 3 shows that there are 28 respondents with poor wastewater disposal facilities, including 12 (16%) respondents who suffer from scabies and 16 (21.3%) respondents who do not suffer from scabies. Meanwhile, there were 47 respondents with good wastewater disposal facilities, of which 14 (18.7%) respondents suffered from scabies and 33 (44%) respondents did not suffer from scabies. From the results of the chi-square test, a  $p\text{-value} = 0.014 (<\alpha 0.05)$  was obtained, which means that there is a significant relationship between wastewater disposal facilities and the occurrence of scabies at the Minhajut Thullab Islamic Boarding School

As for the relationship between sanitation of sewage disposal facilities (latrines) and the incidence of scabies in students at the Minhajut Tallulab Islamic Boarding School, Table 3 shows that 30 respondents with poor personal hygiene of sewage disposal facilities. Among them, 13 (17.3%) respondents suffered from scabies and 17 (22.7%) respondents did not suffer from scabies. Meanwhile, 45 respondents with good personal hygiene facilities for waste disposal were 45 respondents, of which 13 (17.3%) respondents suffered from scabies and 32 (42.7%) respondents did not suffer from scabies. Based on the results of the chi square test, it showed a  $p\text{-value} = 0.198 (>\alpha 0.05\%)$ , meaning that there was no significant relationship between the sewage disposal facility (latrines) and the incidence of scabies at the Minhajut Tallulab Islamic Boarding School.

## Discussion

*Personal hygiene* It is a preventive measure that concerns the responsibility of individuals to improve health and limit the spread of infectious diseases, especially those transmitted through direct contact. Someone said *Personal Hygiene* his It is good if the person concerned can maintain the cleanliness of his body, which includes the cleanliness of the skin, nails, hair, mouth and teeth, clothes, eyes, nose, ears, genitals, and towels, as well as bedding (6).

The results of the study showed that 30.7% of respondents had poor clothing hygiene. This happened because respondents did not pay attention to the cleanliness of clothes which can be done by washing clothes regularly and not sharing clothes. Meanwhile, the number of respondents

with a good clothing hygiene category was 69.3% of respondents because they regularly wash clothes and use clean clothes every day. Research by Pratiwi et al., (2020) explained that scabies are easily transmitted because the cleanliness of clothes is poorly maintained by students. Based on the results of the study, it was shown that 23 respondents had poor personal hygiene and clothing hygiene, of which 12 (16%) suffered from scabies. This happened because respondents rarely washed clothes and often used the same clothes repeatedly without washing, and there was a habit of sharing clothes. Meanwhile, 11 (14.7%) respondents who had poor clothing hygiene did not suffer from scabies because they paid attention to other personal hygiene, such as taking regular showers and not sharing personal items. There were 52 respondents with good personal hygiene, of which 8 (10.7%) suffered from scabies. This happens because of other factors such as environmental cleanliness that is not maintained. However, 44 (58.7%) respondents with good clothing hygiene did not suffer from scabies because they regularly washed clothes and maintained other personal hygiene. From the results of the chi-square test, a p-value = 0.407 ( $>\alpha$  0.05), which means that there is no significant relationship between personal hygiene and the incidence of scabies at the Minhajut Tallulab Islamic Boarding School.

The results showed that as many as 37.3% of respondents had poor wastewater sanitation, which was caused by the unavailability of adequate wastewater channels and wastewater that often stagnated around the cottage area. The number of respondents with a good wastewater disposal sanitation category was 62.7%.

Based on the results of the study, 28 respondents with poor wastewater sanitation, of which 12 (16%) suffer from scabies. This is caused by poorly managed wastewater puddles, thus creating a humid environment and supporting the spread of scabies mites. However, 16 (21.3%) respondents with poor wastewater sanitation did not suffer from scabies because they maintained other personal hygiene, such as regular showering and wearing clean clothes. Meanwhile, 47 respondents with good wastewater sanitation, of which 14 (18.7%) suffered from scabies because they were influenced by other environmental hygiene factors that were lacking, such as the cleanliness of beds and towels. As many as 33 (44%) respondents with good wastewater sanitation did not suffer from scabies because the environment where they lived was kept clean.

From the results of the chi-square test, a p-value = 0.014 ( $<\alpha$  0.05) was obtained, which means that there is a significant relationship between wastewater disposal sanitation and the occurrence of scabies at the Minhajut Tallulab Islamic Boarding School.

The results of the study showed that 40% of respondents had poor sanitation because they did not pay attention to the cleanliness of waste disposal facilities, such as using soap or toiletries together and not washing their hands after defecating. Meanwhile, the number of respondents with a good sanitation category of sewage disposal facilities is as much as 60%.

The results of the study also showed that 30 respondents had poor personal hygiene as a means of waste disposal, of which 13 (17.3%) suffered from scabies. This is due to the sanitary condition of the latrines that are not paid attention to by the students. Meanwhile, 17 (22.7%) respondents with poor personal hygiene do not suffer from scabies because of better personal hygiene, such as regular bathing. On the other hand, of the 45 respondents who had good personal hygiene facilities, 32 (42.7%) did not suffer from scabies and 13 (17.3%) suffered from scabies.

Based on the results of the chi square test, a p-value = 0.198 ( $>\alpha$  0.05%), which means that there is no significant relationship between the waste disposal facility and the incidence of scabies at the Minhajut Tallulab Islamic Boarding School. Although the latrines meet the sanitary criteria, the lack of hygiene maintenance by students is the main factor in the incidence of scabies. The results of this study are in line with Indriani's (2021) research which shows that there is no relationship between toilet cleanliness and the incidence of scabies.

## CONCLUSION

Based on the description of the results of the study, it was shown that there was no significant relationship between personal hygiene and the incidence of scabies in the Minhajut Thullab Islamic Boarding School (p-value=0.407). However, a significant relationship was found between wastewater sanitation and the incidence of scabies (p-value=0.014), which showed that environmental conditions related to wastewater management played a role in the spread of the disease. Meanwhile, sanitation of sewage disposal did not have a significant relationship with the incidence of scabies (p-value=0.198), although the cleanliness of sewage disposal facilities still needs to be considered to prevent skin diseases. Overall, poor environmental sanitation, especially related to wastewater disposal, is a factor that has a greater influence on the incidence of scabies in this pesantren.

It is recommended that the management of Islamic boarding schools improve the cleanliness of wastewater disposal facilities by ensuring that there are no puddles and waste is managed properly to prevent the spread of scabies. In addition, it is important for students to pay attention to the cleanliness of their clothes by washing them regularly and avoiding sharing clothes to minimize the risk of transmission. Means of disposal of feces, although not significantly related to the incidence of scabies, must still be maintained clean, including ensuring the habit of washing hands after defecation. Education and supervision regarding personal and environmental hygiene are urgently needed to prevent an increase in scabies cases at the Minhajut Tallulab Islamic Boarding School.

## REFERENCES

1. Akbar, M. I. (2020). Analysis Of The Needs Of General Practitioners In Public Health Centers Using Health Workload Method. *Public Health of Indonesia*, 6(2), 63-9.
2. Southeast Sulawesi Provincial Health Office. (2021). Health Profile Data in 2020. Kendari
3. South Konawe Regency Health Office. (2022). Scabies Disease Profile Data in 2021. Andoolo
4. Hayati, I., Anwar, E. N., & Syukri, M. Y. (2021). Health Education in Efforts to Prevent Scabies Disease at Pondok Pasantren Madrasah Tsanawiyah Harsallakum Bengkulu City. *Abdihaz: Scientific Journal of Community Service*, 3(1), 23-28.
5. Harto, T., & Ferdi, R. (2022). The Relationship of Personal Hygiene and Environmental Sanitation to the Scabies Incident at Al-Rozi Islamic Boarding School, Sedupi Village, Tanah Abang District. *Indonesian Journal of Health and Medical*, 2(3), 416-423.
6. Julianti, I. S., Budiman, B., & Yusuf, H. (2019). Risk Factors for Scabies Incidence in the Working Area of the Dolo Health Center, SigI Regency. *Collaborative Journal of Science*, 2(1).
7. Ministry of Health of the Republic of Indonesia. (2020). Data and Information on Indonesian Health Profile 2019. Jakarta
8. Kudadiri, K., (2021). The Relationship between Personal Hygiene of Students and the Incidence of Skin Disease Scabies Infection and Environmental Sanitation Review of Dairi Islamic Boarding School in 2019. *Skiripsi*. University of North Sumatra. Medan.
9. Mahmudati, R., & Asnawi, M. F. (2020). Water Treatment as a Support for Hygiene Behavior of Elementary School Students of Ulumul Qur'an. *Journal of Research and Community Service UNSIQ*, 7(2), 189-193.
10. Purwanto, H., & Hastuti, R. P. (2020). Risk Factors for Scabies Disease in the Community. *Health Journal*, 11(1), 145-150.