

# Personal hygiene and scabies among students at islamic boarding school in Indonesia

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**Abstract.** Scabies is one of the public health issues that is caused by infestation of *Sarcoptes scabiei*. Scabies ranked third among the twelve most common skin diseases in Indonesia. The prevalence of scabies is particularly high in boarding school environments. The purpose of this study is to determine the prevalence of scabies in Hamalatul Quran Islamic Boarding School Yogyakarta and to examine its relationship with personal hygiene. In March 2024, a cross-sectional analytical approach was conducted. A total of 123 students were included in this study. Questionnaires were distributed to respondents to gather data on personal hygiene practices. The prevalence of scabies among students in Islamic boarding school was 62.6%. Personal hygiene behavior among the majority of students is predominantly poor. This study showed that there was a relationship between personal hygiene and scabies (p-value = 0.011). Therefore, maintaining personal hygiene is very important to prevent the transmission of scabies.

## 1 Introduction

Scabies is a disease skin caused by parasites that is globally estimated to occur in more than 200 million people at all times. Estimates of the prevalence of scabies range from 0.2% to 71% [1], [2]. In Indonesia, scabies ranks third among the 12 skin diseases most common, with a prevalence of 5.6% to 12.95% [3]. The incidence and prevalence of scabies are very

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high, especially in a group of living individuals in a low-sanitary environment, such as in the boarding school community [4][5].

Scabies in students results in decreased productivity because of the itching, especially at night, which can bother concentration, learning, and sleep [6]. Bad personal hygiene is one of the most frequent risks that cause scabies [7]. Scabies still often happen at boarding schools because of the lack of attention of the students to live a clean and healthy life, especially in terms of personal hygiene. Transmission of scabies at the cottage Islamic boarding schools is very related to cleanliness, like the habit of students who borrow clothes. Students else use towels alternately and do not routinely dry the bedding [7], [8].

Goal 6 of the Sustainable Development Agenda addresses the sustainability and quality of sanitation and hygiene. The 2030 Agenda acknowledges the critical role that better sanitation and hygiene play in advancing other areas, such as health [9]. This study aligns with Sustainable Development Goals (SDGs) goal number six. Based on this background, researchers are interested in finding out the association between personal hygiene and scabies in students at an Islamic boarding school.

## 2 Material and Methods

This study used descriptive analysis with a cross-sectional design to look for relationships between personal hygiene and scabies in Pondok Boarding School Hamalatul Qur'an, Bantul Regency, Yogyakarta, Indonesia. The population in this study is all students living in Pondok Boarding School Hamalatul Qur'an. Inclusion criteria in this study are students active and living in the Cottage Boarding School Hamalatul Qur'an. The exclusion criteria in this study were students who did not willingly become respondents. The technique for taking samples is total sampling.

This research is an analytical study, with the data sourced from primary sources in the form of a questionnaire. The questionnaire used is a guideline for establishing a diagnosis of scabies from the IACS combined with the DeSkab questionnaire [10]–[12]. The variables that will be researched are the personal hygiene of students as the independent variable and scabies disease in students as the dependent variable. We used a validated questionnaire to measure the score of personal hygiene [13]. The data were analyzed using Statistical Product and Service Solutions (SPSS) version 26. On analysis, univariate will obtain a description of the distribution frequency (n) and percentage (%) for each variable. In the bivariate analysis, statistical tests will be carried out using the method of chi-square.

## 3 Results and Discussion

Based on the data attached above, of the 123 respondents in the sample, there were 106 students in the 11–14 year age category (86.2%) and 17 students in the 15–17 year age category (13.8%). Based on the research results, the category aged 11-14 years majority own poor hygiene. These results are also in line with research conducted by Yulfi et al., 2022 who conducted research at Pondok Pesantren in Medan City, where in the study it was found that children aged <15 years were twice as likely to get scabies as those who were older. old. A person's perception and pattern regarding the level of health awareness is influenced by age[14]. A person's level of maturity is influenced by age which also influences knowledge, attitudes, and behavior, this is related to experience of exposure and knowledge about the prevention and transmission of scabies. Based on the length of stay in the Islamic boarding school, students aged 13 years have only lived in the boarding school for less than 1 year,

which is related to scabies disease which tends to show more symptoms in individuals who have not been previously exposed because the body's immune system has not had previous experience with this infection [15].

The frequency of personal hygiene of students was obtained from the questionnaire of 123 respondents. There were 79 students with poor scores in personal hygiene (64.2%) and 44 students with a good score in personal hygiene (35.8%). Based on the research results, the majority of students (61%) have poor scores of personal hygiene behavior. This research is also in line with other research where the results showed that more respondents had poor personal hygiene than those with good personal hygiene [15]. Health knowledge plays a significant role in influencing the adoption of healthy behaviors and attitudes [16]. Other findings showed that there was a statistically significant difference between the level of knowledge of the students before and after the intervention program of scabies prevention [17].

**Table 1.** Demographic status of respondents.

<b>Characteristic Respondent</b>	<b>Frequency (percentage %)</b>
<b>Age</b>	
11 years	0 (0%)
12 years	27 (22%)
13 years	58 (47.2%)
14 years	22 (17.9%)
15 years	15 (12.2%)
16 years	1 (0.8%)
<b>Personal hygiene score</b>	
Poor hygiene	79 (64.2%)
Good hygiene	44 (35.8%)
<b>Event</b>	
Scabies	77 (62.6%)
Not scabies	46 (37.4%)

Based on the data attached above, from the total sample of 123 respondents who were respondents, the frequency of student scabies was obtained. Respondents with scabies were 77 students (62.6%). According to the data, all of the students who suffered from scabies at the Hamalatul Qur'an Islamic Boarding School, the majority fall into the clinical scabies category (B3) according to IACS standards, namely 38 students (30.9%). The distribution of scabies lesions in this study was mostly found in the feet area of 29 students (30.5%) and the area between the fingers of 20 students (21.1%). Apart from that, the distribution of lesions is also found on the wrists, elbows, inner and outer elbow creases, armpits, thighs, and the genital area. In this study, scabies examination was not carried out until the skin scraping or lesion was scraped, so the presence of the *Sarcoptes scabiei* mite could not be reported.

Based on the bivariate analysis using the chi-square test, the p-value was 0.011, so it can be concluded that there was a relationship between personal hygiene and scabies at the Hamalatul Qur'an Islamic Boarding School. Personal hygiene includes cleanliness of clothes, skin, towels, and beds. It was found that many students still ignore the cleanliness of their clothes, especially regarding exchanging or wearing other people's clothes. These results are in line with other research [7].

**Table 2.** Relationship Personal Hygiene with Scabies

Score of personal hygiene	Scabies frequency (%)	Not scabies frequency (%)	p-value
low	56 (72.7)	23 (50)	0.011
good	21 (27.3)	23 (50)	

These results are in line with other research involving 85 respondents. It was found that students with poor hygiene experienced more scabies and there was a significant relationship between personal hygiene with the incidence of scabies [18]. Poor personal hygiene can increase the risk of developing scabies. Transmission of scabies can occur directly through physical contact such as shaking hands or sleeping together, and also indirectly through objects such as clothing or towels. A person's personal hygiene factors not only include the cleanliness of a person's body, but also the cleanliness of frequently used items such as bedding, clothes, bed sheets, towels, and toiletries.

Scabies is a skin disease that is easily transmitted, especially in environments such as Islamic boarding schools where students live and study together, so interaction between individuals is very high. Therefore, maintaining personal hygiene is very important to prevent the transmission of scabies in Islamic boarding schools [7], [8], [19]. The most important risk factor for scabies is environmental sanitation. To ensure mite elimination and stop the transmission, health service providers must collaborate with non-health workers, such as parents, boarding school supervisors, and health workers, to provide education, prevention, and treatment [20].

## 4 Conclusion

The findings indicate that the prevalence of scabies in an Islamic Boarding School is quite high. Scabies is associated with personal hygiene. The findings of this research can serve as a foundation for choosing the right interventions to stop the spread of scabies in Islamic boarding schools, thereby lowering the disease's prevalence there.

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