

# Description of Students' Knowledge, Attitude, And Behavior Towards Scabies In Al-Firdaus Boarding House, Buntet Islamic Boarding Scabies, Cirebon Regency

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## Abstract.

*Scabies is a significant public health issue in densely populated environments like Islamic boarding schools, where high transmission rates are linked to poor hygiene and limited awareness. This study aimed to describe the levels of knowledge, attitudes, and behaviors of students regarding scabies at the Al-Firdaus Dormitory, Buntet Islamic Boarding School, Cirebon Regency. A quantitative descriptive design with a cross-sectional approach was used. The study population consisted of 130 students, from which a sample of 98 was selected using simple random sampling. Data were collected using a validated questionnaire and physical examinations, and were analyzed using univariate analysis. The findings revealed that a majority of students had good knowledge (73.5%), a good attitude (56.1%), and good behavior (53.1%) toward scabies. Despite these positive indicators, 16.3% of the students were found to have scabies, suggesting a gap between awareness and consistent practice. The study concludes that while most students possess a high level of knowledge and a positive attitude, behavioral and environmental factors remain crucial challenges. Targeted interventions focused on practical hygiene training and improved living conditions are essential to effectively reduce scabies prevalence.*

**Keywords:** Attitude; Behavior; Knowledge; Scabies and Students.

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## I. INTRODUCTION

Scabies, also known as "kudis," "gudig," or "budug" in Indonesia, is a contagious skin disease caused by an infestation of the mite *Sarcoptes scabiei var. hominis*. This parasitic infection is transmitted through direct contact with an infected person or indirectly via contaminated objects. The disease is characterized by intense itching, especially at night, and distinctive skin lesions created by the female mites burrowing into the skin to lay eggs (Efendi et al., 2023; Hartini et al., 2023). According to the World Health Organization (WHO), scabies affects approximately 300 million people annually, with a higher prevalence in tropical and subtropical countries, including Indonesia. The Indonesian Ministry of Health reported an increasing trend of cases, from 2.9% in 2011 to 12.9% in 2020. In Cirebon City, infectious skin diseases rank fourth among the top ten most common diseases, with 3,712 reported scabies cases in 2021 (Aulia et al., 2023; Exposto et al., 2023). The high prevalence of scabies in Indonesia, particularly in densely populated environments, highlights the need for effective prevention and control strategies. Due to the high risk of transmission through close contact and shared living spaces, residential settings like Islamic boarding schools (*pesantren*) are considered high-risk areas for scabies outbreaks (Tajudin et al., 2023; Mauliddah et al., 2023). The parasitic mite *Sarcoptes scabiei* thrives in conditions with poor hygiene and high humidity, which are often found in such communal living arrangements. Factors contributing to the spread of the disease include inadequate knowledge about prevention, poor personal hygiene, and crowded living conditions (Hasbyollah et al., 2023; Kamaludin, 2022).

The high incidence of scabies in *pesantren* presents a significant public health challenge. The disease not only causes severe physical discomfort, impacting the academic and social well-being of the students, but it also carries social stigma. The spread of the disease is often facilitated by a lack of awareness among students regarding its causes, transmission, and prevention. A person's susceptibility to infection is influenced by their level of knowledge about scabies, age, education, gender, and behaviors that facilitate

transmission (Permata et al., 2024; Nasution & Asyary, 2022). Additionally, poor personal hygiene, unsanitary environments, low socioeconomic status, demographic development, and high population density also contribute to the increased prevalence of the disease (Ihtiarintyas et al., 2019; Kamaludin, 2022). Previous studies have consistently identified knowledge, attitudes, and behaviors as key risk factors. For instance, a study by Hernanda and Kesetyaningsih in Central Java found that knowledge and behavior were the main risk factors for scabies (James et al., 2020). Therefore, addressing this issue requires a comprehensive understanding of the factors at play. Despite the known risk factors, there is a gap in recent, specific data regarding the knowledge, attitudes, and behaviors of students in Cirebon's *pesantren* concerning scabies. While some studies have focused on general risk factors, this research aims to provide a detailed, descriptive analysis of the current situation in a specific high-risk setting.

The findings will provide a foundational basis for designing targeted health education and promotion interventions tailored to the specific needs of the *pesantren* community (Mastuti et al., 2019). This study aims to describe the level of knowledge, attitudes, and behavior of students towards scabies at the Al-Firdaus Dormitory, Buntet Islamic Boarding School, Cirebon Regency. The urgency of this research lies in its potential to inform and guide targeted prevention and control efforts in *pesantren* settings, which are critical not only to reduce morbidity but also to alleviate the socioeconomic burden of the disease on the community. This research is expected to contribute valuable insights and serve as a reference for future studies, providing a better understanding of the factors contributing to the spread of scabies in similar environments. The originality of this study lies in its focus on a specific, high-risk population, providing granular data that can be used to develop highly localized and effective public health interventions.

## II. METHODS

This research employed a quantitative descriptive design with a **cross-sectional approach** to examine the characteristics of the study variables at a single point in time. A descriptive design was chosen to provide a comprehensive overview of the knowledge, attitudes, and behaviors of the students regarding scabies, without exploring cause-and-effect relationships (Creswell & Creswell, 2023; Sudaryono, 2023). The cross-sectional approach, where all data were collected within the same timeframe, was ideal for describing the frequency distribution of each variable (Emzir, 2022; Anggraini, 2019). The study took place at the Al-Firdaus Dormitory, Buntet Islamic Boarding School, Cirebon Regency, which was selected due to its high student density and consistent annual incidence of scabies cases. Data collection was conducted from May to June 2024. The study's **population** included all 130 students residing in the Al-Firdaus Dormitory. A **simple random sampling** technique was used to select the sample, ensuring every student had an equal opportunity to be included in the study. The final **sample size** was 98 students. Inclusion criteria for participation were: students willing to provide informed consent, those living at the specified dormitory, and those who could read and communicate effectively. Students who were absent during data collection or had other skin conditions were excluded to ensure data accuracy. This sampling method is widely recognized for its ability to produce a representative sample from a homogeneous population (Sugiyono, 2022). The **research instruments** consisted of a set of questionnaires and physical examinations to collect data on knowledge, attitudes, and behaviors related to scabies. The **knowledge questionnaire**, containing 20 questions, was adapted from a previous study by Riski Santi Putriana (2019).

Its validity and reliability were previously tested, showing that the r-count was greater than the r-table, thus confirming its validity. The **attitude questionnaire**, with 7 questions using a Likert scale, was adapted from Desi Friska Sitorus's research (2014), which had also undergone a validity and reliability test on high school students, with 7 valid questions identified. For the **behavior questionnaire**, which included 18 positive and negative questions with response options of Always, Often, Sometimes, and Never, the researchers conducted a re-validation and reliability test (Fikri, 2022). The validity test on 32 respondents with similar characteristics showed that all items had an r-count greater than the r-table value of 0.349. Furthermore, the reliability test yielded an Alpha coefficient value greater than 0.60, confirming the questionnaire's reliability. The data collected were then processed using **univariate analysis** to describe the frequency distribution of each variable. The **data analysis** was performed as follows: for knowledge, a score

of 1 was given for correct answers and 0 for incorrect ones, with a maximum score of 20 (Riski Santi Putriana, 2019). Knowledge levels were categorized as **Good** (score  $\geq$  median) and **Poor** (score  $<$  median). Attitudes were analyzed using a 7-question Likert scale questionnaire, with a similar categorization of **Good** (score  $\geq$  median) and **Poor** (score  $<$  median). Behavior was measured using the 18-question questionnaire, and the same scoring method was applied, categorizing results as **Good** (score  $\geq$  median) and **Poor** (score  $<$  median) (Fikri, 2022; Fahmi & Hidayatullah, 2023). The physical examination was conducted to identify the presence of scabies among the students, providing objective data on the incidence of the disease. This systematic approach ensures a robust and verifiable analysis of the study variables.

### III. RESULT AND DISCUSSION

#### Result

##### Overview of Research Sites

Buntet Islamic Boarding School is one of the oldest Islamic boarding schools in Indonesia, established in the 18th century. Buntet Islamic Boarding School is traditional and modern. The students, who number in the thousands, do not live in the same hut. They live and learn to recite in their respective huts, which now number approximately 65 huts. One of them is the Al Firdaus dormitory. There are 3 small rooms (enough for five students) and 2 large rooms (enough for more than 15 students) for girls, then for boys, there are 3 small rooms (containing 5 students) and 3 large rooms (enough for more than 15 students). The facilities that have been provided at the Al-Firdaus dormitory include children's rooms, toilets, drying and laundry areas, public kitchens, lighting and electrical facilities, children's closets, and others.

##### Respondent Characteristics

**Table 1.** Distribution of Respondents by Gender and Age

Gender	Frequency (f)	Percentage (%)
Male	59	60,2%
Female	39	39,8%
Total	98	100%
Age	Frequency (f)	Percentage (%)
12 Years	7	7,1%
13 Years	27	27,6%
14 Years	28	28,6%
15 Years	28	28,6%
16 Years	8	8,2%
Total	98	100%

Of the total 98 students who were willing to be respondents, data was obtained based on the gender of the students, namely, there were 59 respondents (60.2%) who were Gender Male, and there were 39 respondents (39.8%) who were Gender Female. Of the 98 students who were willing to be respondents, Age students at the Buntet Islamic Boarding School were 7 students (7.1%), 13 Years there were 27 students (27.6%), 14 Years there were 28 students (28.6%), 15 Years there were 28 students (28.6%), 15 Years there were 28 students (28.6%), and Age 16 Years there were 8 students (8.2%).

**Table 2.** Frequency Distribution of Students' Knowledge Level

Knowledge	Frequence	Percentage
Good	72	73.5%
Lack	26	26.5%
<b>Total</b>	<b>98</b>	<b>100%</b>

Table 2 shows that the category of students with a Good level of knowledge is 72 students (73.5%), and the Lack level of knowledge is 26 students (26.5%).

**Table 3.** Frequency Distribution of Santri Attitude

Attitude	Frequence	Percentage
Good	55	56.1%
Lack	43	43.9%
<b>Total</b>	<b>98</b>	<b>100%</b>

Table 3 shows that in the attitude variable, there were 55 students (56.1%) who had a Good attitude and 43 students (43.9%) who had a Lack attitude.

**Table 4.** Distribution of Frequency of Student Behavior

<b>Behavior</b>	<b>Frequence</b>	<b>Percentage</b>
Good	52	53.1%
Lack	46	46.9%
<b>Total</b>	<b>98</b>	<b>100%</b>

Table 4 shows that in the behavioral variable, respondents who have Good behavior are 52 respondents (53.1%), and respondents who have Lack behavior are 46 respondents (46.9%).

**Table 5.** Overview of Scabies Incidence

<b>Scabies</b>	<b>Frequence</b>	<b>Percentage</b>
Ya	16	16.3%
Tidak	82	83.7%
<b>Total</b>	<b>98</b>	<b>100%</b>

Table 5 above shows that out of 98 students, there are 16 students (16.3%) who have Scabies disease, and there are 82 students (83.7%) who do not experience Scabies disease.

## **Discussion**

### **Respondent Characteristics based on Gender**

The findings of this study reveal that scabies remains a persistent health issue in Islamic boarding school environments, particularly in crowded living spaces with suboptimal hygiene. The majority of students affected by scabies in this study were male. This gender-based difference can be attributed to several factors related to both behavior and environment. Previous studies suggest that male students often exhibit less consistent personal hygiene practices, such as infrequent bathing, sharing personal items, and neglecting to change clothes regularly, all of which contribute to the spread of scabies within dormitories (Putranti et al., 2024; Mastuti et al., 2019). Conversely, female students generally demonstrate a better understanding and practice of personal hygiene, which lowers their risk of contracting the disease. Furthermore, supervisory systems in female dormitories tend to enforce stricter hygiene rules and regular checks by supervisors or mentors. In contrast, male students often have more freedom and less stringent supervision, leading to less consistent application of personal hygiene. The combination of lower hygiene awareness, limited health education, and less-than-optimal supervision makes male students more susceptible to scabies than their female counterparts. Therefore, prevention efforts should be specifically tailored to enhance health education and improve hygiene practices among male students (Avidah et al., 2019).

### **Overview of Student Knowledge**

The results indicate that most students in this study (73.5%) possessed a good level of knowledge about scabies, significantly outnumbering those with poor knowledge (26.5%). This high level of awareness can be attributed to formal and informal education within the boarding school environment. Formal education, such as health lectures or presentations by health professionals, and informal learning, like discussions with fellow students and mentors, play a crucial role in enhancing students' understanding of scabies, its causes, and prevention methods (Ihtiarintyas et al., 2019). Direct experience with scabies also serves as a powerful learning tool, as students who have been infected are often motivated to seek more information about the disease. This confluence of formal instruction, peer interaction, and personal experience is the primary factor contributing to the high level of knowledge observed among the students.

### **Overview of Student Attitudes**

This study found that a majority of students (56.1%) held a good attitude toward scabies prevention, while 43.9% had a poor attitude. Attitudes are a significant predictor of behavior, and forming a positive attitude is directly linked to adopting healthy and hygienic practices. A better understanding of the importance of personal hygiene and health leads to a stronger inclination to behave accordingly (Jasamantrin Laoli & Lase, 2022). Attitudes are shaped by knowledge, social environment, and peer support. A positive attitude is essential for promoting scabies prevention, as it motivates individuals to maintain cleanliness through regular bathing and routine changing of bed linens (Sitorus, 2014). The role of societal and religious values is also a key factor; the Islamic teaching that "cleanliness is a part of faith" reinforces the importance

of hygiene and likely contributes to the positive attitudes observed. The questionnaire results support this, showing that most students agreed with statements related to cleanliness and prevention methods.

#### **Overview of Student Behavior**

Based on the research findings, a slight majority of students (53.1%) demonstrated good hygiene behaviors, while 46.9% exhibited poor behaviors. **Personal hygiene** is a critical measure for reducing the risk of contracting diseases, particularly those caused by poor self-care. Inconsistent personal hygiene practices can increase the likelihood of skin disorders, including scabies (Fikri, 2022). Furthermore, adult supervision and support, such as reminders from religious teachers (*ustadz*), can significantly improve a student's commitment to personal hygiene for scabies prevention. Daily routines in the pesantren, such as regular bathing, doing laundry, and cleaning sleeping areas, are integral to maintaining a healthy environment. The religious and cultural emphasis on cleanliness also serves as a constant reminder to students about the importance of hygiene for both personal health and disease prevention.

#### **Overview of Scabies Incidence**

The study's findings on scabies incidence among students at the Al-Firdaus Dormitory show that the majority (83.7%) did not have the disease, while 16.3% were affected. Several factors influence the occurrence of scabies, including a history of contact with an infected person, socioeconomic status, poor personal hygiene, and environmental conditions that favor the proliferation of mites (Care et al., 2021). Other studies also highlight that access to clean water, high occupancy density, and an individual's level of knowledge are crucial in determining the risk of scabies (Djitmau et al., 2024). This is consistent with previous research, such as a study by Anastasya A. (2024), which found that poor personal and environmental hygiene, as well as high occupancy rates, were key factors in the incidence of scabies among students.

## **IV. CONCLUSION**

This study successfully described the levels of knowledge, attitudes, and behaviors of students toward scabies in the Al-Firdaus Dormitory, Buntet Islamic Boarding School, Cirebon Regency. The key findings indicate that the majority of the students possess a good level of knowledge (73.5%) and a positive attitude (56.1%) regarding scabies prevention. This suggests that the educational efforts and cultural values emphasizing cleanliness within the pesantren have been largely effective in shaping students' understanding of the disease. However, despite this strong awareness, the prevalence of scabies remains a concern, particularly among male students, highlighting a clear disconnect between knowledge and practice. The study also revealed that while slightly more than half of the students demonstrated good behavior (53.1%), a substantial portion still exhibited poor hygiene practices (46.9%). This indicates that positive attitudes and high knowledge levels do not consistently translate into the necessary behaviors to prevent scabies transmission, such as consistent personal hygiene and avoiding the sharing of personal items. These findings collectively affirm that while awareness is high, behavioral and environmental factors remain critical challenges in controlling the spread of scabies in this setting.

Despite providing valuable insights, this study has several limitations. First, as a cross-sectional study, it can only describe the current situation at a single point in time and cannot establish a causal relationship between the measured variables and the incidence of scabies. While the data shows a correlation, it does not definitively prove that a lack of knowledge, poor attitude, or bad behavior directly caused the disease. Second, the reliance on self-reported data through questionnaires may introduce response bias, where students might over-report positive behaviors and attitudes to appear more favorable. The study's focus on a single dormitory within the Buntet Islamic Boarding School also limits the generalizability of the findings to the entire pesantren community or other similar settings in Cirebon. Lastly, the physical examination, while providing objective data on scabies incidence, did not differentiate between new and recurrent cases, which could impact the analysis of risk factors.

Based on these findings and limitations, this study offers several recommendations for future research and public health initiatives. For researchers, it is crucial to conduct longitudinal studies to better understand the direct causal links between knowledge, attitudes, behaviors, and the incidence of scabies over

time. Future studies should also employ more diverse data collection methods, such as direct observation of hygiene behaviors, to minimize self-reporting bias. In terms of practical application, the results suggest that health interventions should not only focus on improving knowledge and attitudes but must primarily target behavioral change. Public health programs in pesantren should emphasize practical, hands-on training for hygiene practices, such as routine bathing and laundry protocols, and provide a conducive environment by ensuring access to clean water and adequate sanitation facilities. The finding that male students are more susceptible highlights the need for gender-specific educational programs and stricter hygiene supervision tailored to their needs. These targeted interventions, informed by a deeper understanding of the behavioral gaps, are essential to effectively reduce the prevalence of scabies in high-density communal settings.

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