


Prevalence, severity of scabies, and relationship between gender and education level with scabies disease in Pesantren X Wonosobo

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Article Info	ABSTRACT
Keywords: Scabies, Prevalence, Severity level, Students, Gender, Education level	Scabies is a common skin disease caused by infection of <i>Sarcoptes scabiei</i> , which is transmitted directly human-to-human contact, especially in crowded community like pesantren. The purpose of this study was to determine the prevalence, and association between scabies with gender and education level of students in Pesantren X Wonosobo. This cross-sectional study was conducted to all students (238 students) in 2023. Diagnosis was made based on anamnesis and dermatology examination. Data were analyzed using chi square test. The results showed that the prevalence of Scabies was 78,15% (male 83,1% and female 63,9%; education level tsanawiyah 84,5% and aliyah 44,73%). and the severity of scabies was moderate level (64%). Chi square test showed significant difference between the prevalence of Scabies with gender ($p=0.002$) and education level ($p=0.003$) of the students. In conclusion, the prevalence of Scabies in Pesantren X Wonosobo was 78,15 %. There was association between the prevalence of Scabies with gender and education level of students.
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INTRODUCTION

The *Sarcoptes scabiei* mite causes scabies, a skin disease. The activity of *S. scabiei* mites in making tunnels in the skin to lay their eggs causes itching in scabies. Scabies is most common in tropical countries, such as Indonesia. According to the WHO (2020), in general, scabies can affect at least 200 million people at any time. This is related to the annual report, which states that there are 300 million cases of scabies every year (WHO, 2017). The Indonesian Ministry of Health (2016) stated that out of 261.6 million people in 2016, the prevalence of scabies in Indonesia was 4.60%–12.95% and ranked third out of the 12 most common skin diseases.

Scabies is a skin disease that spreads easily in densely populated environments with close person-to-person contact, such as boarding schools, orphanages, prisons, and military barracks. Previous research shows the prevalence of scabies in boarding schools is quite high. The incidence rate of scabies in Gading Mangu Perak Jombang boarding school in 2019 was 72.2%, and in Qotrun Nada Depok boarding school in 2018 was 82%. Factors that play a role in the high incidence of scabies are related to the low level of awareness, education, hygiene, and occupancy density.

Pesantren X is a boarding school in Wonosobo district with good environmental hygiene and abundant water for the needs of students. In this pesantren, there are several students who complain of itching. To find out if the complaint is scabies, a survey needs to be done, and if the skin disease suffered is scabies, students need to receive treatment. Treating scabies is easy and has a high cure rate, but failure to treat it massively and simultaneously will result in recurrence soon. Treatment of scabies must be followed by health counseling so that the recurrence of scabies can be prevented. Health counseling will provide good results if it is tailored to the demographic characteristics of students, including ethnicity, gender, education, and factors associated with the incidence of this disease. Therefore, the author felt the need to conduct research on the prevalence, severity, and factors associated with scabies in the form of gender and education level at Pesantren X Wonosobo Regency.

METHOD

Boarding School X Wonosobo Regency was the location for this cross-sectional design research study. Data collection was carried out on Sunday, November 26, 2023, using the random sampling method with a sample size of 238 respondents. The diagnosis of scabies is based on anamnesis and a dermatological examination. We analyzed the data obtained using the chi square test. We will assess the severity of scabies in subjects diagnosed with the condition.

RESULTS AND DISCUSSION

Pesantren X Wonosobo Regency has a total of 5,432 students. Out of 238 respondents who participated in the study, the results of the skin examination showed that 186 students suffered from scabies, with a prevalence of 78.15%.

Table 1. Distribution of Scabies by Sex and Education Level

Characteristic	Positive	Negative
Gender		
Male	147 (83,1%)	30 (16,9%)
Female	39, (63,9%)	22 (36,1%)
Education		
Tsanawiyah	169 (84,5%)	31 (15,5%)
Aliyah	38 (44,73%)	21 (55,27%)

Table 1 shows that based on gender, the prevalence of scabies in male students (83.1%) is higher than female students (63.9%). The chi square results ($p = 0.002$) indicate a significant difference in scabies prevalence based on gender. The prevalence of scabies in Aliyah students (44.73%) was lower than that of Tsanawiyah students (84.5%). The results of chi square test ($p = 0.003$) indicate a significant association between the prevalence of scabies and the level of education.

We assessed the severity of scabies in the students diagnosed with the condition. We assessed the severity of scabies in the students diagnosed with the condition using

four indicators: the number of topographic areas infested, the level of itching, sleep disturbance, and super infection. The clinical severity score of scabies is based on a scale of 0–10 points, which are categorized as mild (≤ 3 points), moderate (4–5 points), and severe (≥ 6 points). This score consists of the number of infested topographic areas (1–3 areas: 1, 4–6 areas: 2, 7–9 areas: 3, and ≥ 10 areas: 4), the degree of itching (0–2), sleep disturbance (1 and 2), and the presence or absence of a super infection (0–2).

Table 2. Overview of the severity of scabies

Indicator Scoring	Total	%
Number of infested topographic areas		
1–3	122	65,6%
4–6	59	31,8%
7–9	5	2,6%
>10	0	0%
Itchiness level		
Mild	72	38,7%
Moderate	103	55,4%
Severe	11	5,9%
Sleep disturbance		
Initiating sleep	148	79,6%
Maintaining sleep	38	20,4%
Super infection		
None	139	74,7%
Pustule	45	24,3%
Abscess	2	1%
Disease severity score		
Mild	62	33,3%
Moderate	119	64%
Severe	5	2,7%

Based on table 2 above, of the 186 students diagnosed with scabies at Pesantren X Wonosobo, the severity of scabies was at a moderate level (64%). From the scoring of the severity of scabies, the subjects who had the most topographic areas (1–3 areas) were 122 students (65.6%). The most subjects who had a moderate level of itching were 103 students (55.4%), and subjects who claimed to feel the most itching when going to bed were 148 students (79.6%). Based on the results of the clinical examination of scabies, 139 (74.7%) students did not have a super infection, but in subjects who had a super infection, 24.3% of the lesions were pustules.

Discussion

Scabies is a disease associated with occupant density and hygiene behavior. This study was conducted at Pesantren X Wonosobo on November 26, 2023, with the results showing a fairly high prevalence of scabies, namely 78.15%. These results are in

accordance with research reported by Surasri in Surabaya in 2019, which reported a high prevalence of scabies in Jombang pesantren of 72.2% and a significant relationship [1]. One of the risk factors that causes the high prevalence of scabies in Pesantren X Wonosobo is the density of bedroom occupancy, which is 30 people in one room with an area of 35 m². With a high density of occupancy, direct contact between students is high, making transmission easier.

The results of this study show that the prevalence of scabies is more experienced by male students (83.1%) than female students (63.9%) and has a significant relationship, which means that men are more at risk of scabies infestation than women. These results are in accordance with research reported by Unang in Tasikmalaya in 2022, which reported that male gender (60.3%) was greater than female (39.7%), and there was a significant relationship between gender and the prevalence of scabies [2]. Arief's research in Bandar Lampung in 2018 reported that male gender (62%) was more prevalent than female (38%), and there was a significant relationship between gender and the prevalence of scabies [3]. In 2019, Pande in Bali reported that men (69%) were more affected by scabies than women (31%), and there was a significant relationship between gender and the prevalence of scabies [4]. This was due to female students paying more attention to personal hygiene. Female students tend to be embarrassed if they share toiletries or change clothes with other friends, in contrast to the habits of male students.

In 2018, at Pondok Pesantren Darul Ma'arif in Sintang Regency, Elvi reported that there was no significant difference between the prevalence of scabies in men (50%) and women (50%) [5]. There were different results from the prevalence of scabies at Pondok Pesantren Qotrun Nada in Depok in 2018 reported by Zaira [6]: more women (52%) were affected by scabies compared to men (48%).

A person's level of education affects the prevalence of disease in the community. In communities with high levels of education, the incidence of infectious diseases is generally lower than in communities with low levels of education. From the results of this study, it was found that the prevalence of scabies was more experienced by students with lower education levels, namely the tsanawiyah level (84.5%) than the aliyah level (44.73%). These results indicate that there is a significant relationship between education level and the prevalence of scabies. These results are in accordance with research conducted by Sunarno in Banjarnegara in 2021, which reported that low levels of education had a higher prevalence of scabies: 48.4% in junior high school, 9.4% in high school, and 1.6% in college [7]. This study shows that there is a relationship between low education levels and the prevalence of scabies. The study stated that people with low education have less awareness about personal hygiene and do not know that poor personal hygiene plays an important role in the process of disease transmission.

In Zaira's research in Depok in 2018, it was reported that the highest prevalence of scabies was found in people with low education levels in junior high (62%) and high school (32%) [6]. These studies demonstrate a correlation between the prevalence of scabies and the education level of students. It was reported by Unang in Tasikmalaya in 2022 that lower education levels had a higher prevalence of scabies: junior high school (64.7%) and

high school (35.3%). This study proves that the prevalence of scabies is related to the education level of Santri.

Pesantren X Wonosobo has a much higher prevalence of scabies with the Tsanawiyah education level. This is because santri are children who have just entered the pesantren. Children who have just entered the boarding school tend to have a habit of exchanging goods, such as clothes, towels, pillowcases, bolsters, and prayer tools, between friends. Sometimes children who have just entered the hut have less hygiene, such as rarely washing clothes, rarely changing clothes, and rarely bathing, so that these factors facilitate the transmission process from one child to another [8].

Low education levels tend to have a high prevalence of scabies because a person's level of education plays a role in the formation of a person's actions regarding a disease, from early detection to efforts to prevent disease. Education plays an important role in efforts to prevent the transmission of scabies, namely through good personal hygiene practices [9].

The severity of scabies in Pesantren X Wonosobo is moderate (64%); this is similar to research conducted by Miftahur Rizqiyah in Palembang in 2020, which had a moderate scabies severity of 64.28%. One indicator to assess the severity of scabies is sleep disturbance [10]. The most common sleep disturbance felt by students at Pesantren X Wonosobo is when they are about to start sleeping. Increased mite activity at night is responsible for this sleep disturbance, which is a typical symptom of scabies. Novyana in Lampung in 2019 revealed that 30% of children with scabies at the Mahmudah Kemiling Orphanage in Bandar Lampung had poor sleep quality, and there was a significant relationship between scabies and sleep quality ($p = 0.024$) [11]. The topography of scabies lesions is most dominantly located between the fingers, and most subjects have 1-3 topographic areas of lesions from the whole body. In previous studies, the most lesions were found in the area between the fingers (84%), buttocks (80%), abdomen/waist (72%), wrist (64%), and external genitalia (52%). These data show that the fingers, wrists, waistline, buttocks, and genitalia are important to examine for the suspicion of scabies infestation. The predilection of an individual with scabies may include several sites. Classic scabies typically affects the areas between the fingers and flexors of the wrist.

CONCLUSION

Based on the results of the analysis and discussion of the research above, it can be concluded that the incidence of scabies in Pondok X Wonosobo is still relatively high, so interventions are needed to reduce the incidence rate and prevention efforts. Scabies disease occurs due to many factors; in this study, gender and education level have a significant relationship with the incidence of scabies. Santri, who are diagnosed with scabies on average, have moderate severity. Based on the findings of this study, we can apply several recommendations to enhance hygiene and health conditions in the pesantren environment. First, students living in dormitories should enhance personal hygiene, maintain cleanliness of their rooms, clothes, and personal belongings to prevent skin diseases like scabies. Optimize poskestren services to provide better health information and services, while conducting periodic checks and socialization on personal hygiene at the

puskesmas. Additionally, increasing the number of student rooms is recommended to prevent overcrowding. For future research, we propose exploring new variables with a larger population and sample. In addition, for students, it is important to immediately check with health services when itching symptoms appear without delaying it until it becomes severe. Implementing these suggestions will create a cleaner and healthier pesantren environment.

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