

The Influence Of The Level Of Knowledge And Clean And Healthy Living Behaviors On The Incidence Of Scabies In The Al-Ibtikary Islamic Boarding School, Karanganyar District

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ABSTRACT

Scabies is a disease caused by mites/lice of the *Sarcoptes Scabiei hominis* variety. Scabies is easily spread either directly by sufferers or indirectly through clothes, bed sheets, towels. Islamic boarding schools are one of the places at risk of transmitting scabies. This study aims to analyze the influence of the level of knowledge and clean and healthy living behavior on the incidence of scabies at the Al-Ibtikary Islamic Boarding School Karanganyar. This research design uses correlative descriptive with a cross sectional approach. The total sample was 86 respondents using simple random sampling technique. The research instrument used a questionnaire. The independent variables are the level of knowledge and clean and healthy living behavior. The dependent variable is the incidence of scabies. The research results showed that out of a total of 86 respondents, 38 respondents (44.2%) were known to have a sufficient level of knowledge. Respondents who had sufficient clean and healthy living behavior were 48 respondents (55.8%). Respondents with scabies incidents were 54 respondents (62.8%). Based on the results of the logistic regression test, it shows the level of knowledge with a P value of 0.001 (< 0.05) and clean and healthy living behavior with a P value of 0.000 (< 0.05), meaning that there is an influence of the level of knowledge and clean and healthy living behavior on the incidence of scabies. at the Al-Ibtikary Karanganyar Islamic Boarding School. In this study, clean and healthy living behavior was the most dominant factor influencing the incidence of scabies. The better the clean and healthy living behavior of a student, the more indirectly it can prevent the incidence of scabies. Apart from that, it will also have a good impact on the order of clean and healthy living behavior in Islamic boarding schools.

Keywords: Knowledge, PHBS, Scabies

INTRODUCTION

Scabies is a skin disease caused by infestation and sensitization of *Sarcoptes scabiei* variety *hominis*, a parasitic mite capable of burrowing in the skin and causing itching. Synonyms for scabies include *the itch*, *sky-bees*, *pamaan itch*, *seven-year itch*, and in Indonesia, scabies is also known as kudis, gudik, or buduk. Scabies is a disease that can cause discomfort in sufferers due to clinical indications caused by the mite/tick of the *Sarcoptes scabiei* variety *hominis* (Fannisa, 2019).

According to the World Health Organization (WHO), scabies is one of the most common dermatological diseases, affecting 200 million people annually. The global prevalence of scabies ranges from 0.2 % to 71% (WHO, 2020). Scabies is present in all countries, but prevalence is higher in developing countries, tropical regions, and densely populated areas.

Scabies is more prevalent in children and adolescents than in adults (WHO 2018). Indonesia has the second-highest scabies incidence in Asia after India.

According to the Ministry of Health of the Republic of Indonesia (Depkes RI), based on data from health centers throughout Indonesia in 2018, it was 5.6 % - 12.95% and ranked third out of 12 most common skin diseases. Meanwhile, in East Java Province, 72,500 (0.2 %) residents suffered from scabies (Hasana and Hamid Ali, 2018). According to the International Alliance for the Control of Scabies (IACS), in 2020, the incidence of scabies was estimated to affect 150 to 200 million people worldwide with 455 million incident cases per year (Engelman et al. 2020).

Based on an initial survey conducted by researchers in May 2023 at the Al-Ibtikary Islamic Boarding School in Karanganyar, Trenggalek Regency, of the 110 students residing at the Al-Ibtikary Islamic Boarding School, medical records at the Poskentren recorded 21 students suffering from scabies. Students residing at the Islamic boarding school experienced scabies symptoms such as itching at night. When researchers conducted direct observations in the female and male student dormitories, several factors were seen to influence the transmission of scabies, such as students' lack of practice in maintaining hand, towel, and clothing hygiene .

Knowledge can also influence a person's behavior in preventing diseases like scabies. The low level of knowledge among Islamic boarding school students regarding hygiene and healthy living practices and scabies prevention contributes to the high incidence of scabies. Furthermore, poor hygiene and healthy living practices increase the risk of scabies transmission if someone lives in an area where scabies is prevalent (Majid et al., 2020).

Students living in Islamic boarding schools have a high prevalence of scabies. This is due to overcrowding in housing and physical interaction or contact between residents, as well as poor hygiene and healthy living practices, such as hanging clothes in their rooms, sharing clothes and personal items like blankets and towels, which contribute to the transmission of scabies mites (Ihtiarintyas et al., 2019). This is also influenced by each individual's level of knowledge and hygiene and healthy living practices in preventing scabies. Based on the description above, the researcher is interested in conducting research on the Influence of Knowledge Level and Clean Living Behavior on the Incidence of Scabies at the Al-Ibtikary Karanganyar Islamic Boarding School, Trenggalek Regency.

METHOD

This study employed a descriptive correlative design with a cross-sectional approach, employing a simple random sampling technique, with a sample size of 86 respondents. A questionnaire was used as the research instrument. Data analysis utilized logistic regression.

RESULT

Table 1 Distribution of Respondent Characteristics and Variables

Research result	Frequency (f)	Percentage (%)
Gender		
Man	47	54.7
Woman	39	45.3
Age		
12-15 years	46	53.5
16-18 years	40	46.5
Education		
JUNIOR HIGH SCHOOL	45	52.3
SENIOR HIGH SCHOOL	41	47.7
Level of Knowledge		
Good	27	31.4
Enough	38	44.2
Not enough	21	24.4
PHBS		
Good	22	25.6
Enough	48	55.8
Not enough	16	18.6
Scabies Incident		
No scabies	32	37.2
Scabies	54	62.8
Amount	86	100

Source: Research Questionnaire, January 8, 2024

Table 2 Cross Tabulation Between Variables

Variables			Scabies incident		Total
			No scabies	Scabies	
Level of knowledge	Good	Frequency	15	12	27
		%	17.4%	14%	31.4%
	Enough	Frequency	16	22	38
		%	18.6%	25.6%	44.2%
	Not enough	Frequency	1	20	21
		%	1.2%	23.3%	24.4%
Total		Frequency	32	54	86
		%	37.2%	62.8%	100%
PHBS	Good	Frequency	15	7	22
		%	17.4%	8.1%	25.6%
	Enough	Frequency	15	33	48
		%	17.4%	38.4%	55.8%
	Not enough	Frequency	2	14	16
		%	2.3%	16.3%	18.6%
Total		Frequency	32	54	86
		%	37.2%	62.8%	100%

Source: Research Questionnaire, January 8, 2024

Based on Table 2 above, it is known that respondents with sufficient knowledge regarding the occurrence of scabies are 22 respondents (25.6 %), while respondents who have sufficient clean and healthy living behavior regarding the occurrence of scabies are 33 respondents (38.4%).

Analysis of Research Statistical Test Results

No	Variables	Grade B	P	OR	95%-CI
1	Knowledge	1,602	0.001	4,961	1,948-12,635
2	PHBS	1,778	0.000	5,920	2,209-15,867

Based on the table above, the results of the logistic regression test are:

1. Children with less knowledge are at risk of contracting scabies by 4,961 times compared to children with good knowledge, where the *P* value is 0.001 (<0.05), which means there is an influence between the level of knowledge and the incidence of scabies at the Al-Ibtikary Karanganyar Islamic Boarding School, Karanganyar Regency.
2. Children with PHBS are at approximately 5,920 times more risk of contracting scabies than children with good PHBS, where the *P* value is 0.000 (<0.05), which means there is an influence between clean and healthy living behavior on the incidence of scabies at the Al-Ibtikary Karanganyar Islamic Boarding School, Karanganyar Regency.

DISCUSSION

Knowledge Level Identification

Based on the research results in Table 1, it shows that 38 respondents (44.2%) have sufficient knowledge. The identification results using a questionnaire showed that students lack knowledge of PHBS, namely about PHBS, knowledge of hand washing, towel cleanliness, room cleanliness. Ignorance of the impact of using shared items, proper hand washing, frequency of towel and bed linen use is based on students' lack of knowledge about how scabies is transmitted. As a result, students with low knowledge will be at higher risk of experiencing scabies compared to students who have high knowledge of how scabies is transmitted. Knowledge about PHBS is not obtained comprehensively in Islamic boarding schools, but rather information is obtained from other people, friends.

Based on age, the majority of respondents with sufficient knowledge (24 respondents, 27.9%) were aged 12-15. Age is a significant factor in shaping a person's characteristics. Age influences a person's comprehension and thought patterns. As one ages, their comprehension develops. Psychologically, as one ages, a person's thinking becomes more mature and adult. This indirectly increases a person's knowledge.

This is in accordance with the research of Ibadurrahmi et al. (2016) at the Qotrun Nada Islamic Boarding School in Cipayung, Depok, which stated that knowledge is less related to the influence of age because as many as 36.4% of students aged 12-14 years compared to 15-17 years. At this stage of adolescence, good guidance from parents and teachers is needed to obtain various accurate and correct information. Therefore, efforts are needed to increase respondents' knowledge about PHBS. This knowledge is one of the important factors in preventing scabies because high knowledge of scabies will form an action in an effort to prevent scabies.

According to researchers, improving students' knowledge of PHBS (Clean and Healthy Living) can be achieved through education. This education can be provided by health workers, health cadres at the Islamic boarding school, or by the Islamic boarding school leadership. This indirectly enhances students' knowledge and insight through direct experience. The students' lack of knowledge about these preventive measures contributes to the continued prevalence of this disease, due to their lack of understanding of PHBS.

Identification of Clean and Healthy Living Behavior

Based on the research results in Table 1, it shows that the majority of respondents had sufficient behavior, namely 48 respondents (55.8%). These results are also supported by

respondent characteristic data where most of the respondents are aged 12-15 years old as many as 46 students (53%) or still in junior high school. Where many respondents are not able to maintain personal hygiene and the environment such as leaving clothes hanging in the room, using towels in a damp state, using towels alternately with friends, not drying towels after use, using bar soap alternately with friends, not washing hands after activities. It can be said that during the growth period, when teenagers are in their early teens, they have not yet paid maximum attention to and practiced proper PHBS.

This aligns with research by Silalahi and Putri (2018), which found that personal hygiene issues among students remain high. This poor personal hygiene behavior is due to a lack of knowledge and desire to pay attention to personal hygiene and maintain health. Poor knowledge will impact poor attitudes and vice versa. Fatmawati (2016) stated that the lack of PHBS can be influenced by students' lack of understanding of how to maintain PHBS because they have not received sufficient information about PHBS in the Islamic boarding school environment.

According to researchers, there is still a lack of students in maintaining PHBS such as the behavior of maintaining towel cleanliness, clothing cleanliness, body cleanliness, and hand cleanliness, this is influenced by the students' lack of knowledge about how to maintain PHBS correctly. This is supported by the age of respondents who have an age range of 12-18 years. Where this young age certainly affects memory, so that respondents find it easier to remember the material to be delivered and as respondents get older they are able to better apply clean and healthy living behaviors in their daily lives. In addition, respondents have not received sufficient information about PHBS in the Islamic boarding school environment or have received information but only listened to it and not practiced in their daily lives, so that it can cause the risk of transmission of scabies.

Identification of Scabies Incidents

54 respondents (62.8%) experienced scabies. Based on the questionnaire results, it was found that students who experienced scabies with symptoms experienced were experiencing the appearance of watery blisters on the skin, itching between the fingers, having a rash and crusty skin when scratched, itching at night with small spots, feeling itchy on the skin in the folds of the body, so that the incidence of scabies skin disease among students was quite high. The most common symptom experienced by respondents was itching between the fingers.

In this study, the majority of males (37 respondents, 43%) experienced scabies. Meanwhile, 17 females (19.8%) experienced scabies. This is in line with research by Nuraini & Wijayanti (2016), which found that male students were more likely to suffer from scabies. This is likely due to male students paying less attention to their skin health compared to female students, who are more concerned about their skin health.

According to researchers, the incidence of scabies that still occurs in Islamic boarding schools is caused by the lack of students in maintaining personal hygiene which is characterized by the appearance of symptoms of experiencing the appearance of watery blisters on the skin, itching between the fingers, itching at night with small spots, feeling itchy on the skin in the folds of the body and gender may be a factor in the occurrence of scabies. Most of those affected by scabies are men compared to women, because men pay less attention to cleanliness compared to women who are more concerned about personal hygiene.

Analysis of the Influence of Knowledge Level and Healthy and Clean Living Behavior on the Incidence of Scabies

1. The Influence of Knowledge Level on Scabies Incidence

Based on the results of the logistic regression test, the *P value* is 0.001 (< 0.05), which means there is an influence between the level of knowledge on the incidence of scabies with an OR value of 4.961, so it can be interpreted that children with less knowledge are at risk of

contracting scabies by 4.961 compared to children with good knowledge. This knowledge includes knowledge of clean and healthy living behaviors.

Based on the cross-tabulation results in Table 2, 20 respondents (23.30 %) had insufficient knowledge regarding scabies. The questionnaire results revealed a lack of awareness and knowledge regarding proper towel use and frequency of towel use.

While a lack of handwashing habits should reduce the potential for scabies due to chemicals lingering after activities, the potential for scabies remains. Improper handwashing can be a contributing factor. For example, not washing your hands thoroughly enough can leave chemical residues on your skin. While almost everyone understands the importance of washing hands with soap, many still don't practice doing it correctly at crucial times.

Furthermore, a lack of knowledge about student bedding hygiene can lead to rapid scabies transmission due to the typically damp conditions in dormitories, and frequent changes in bed sheets and pillowcases. This disease can be transmitted directly or indirectly. Direct transmission occurs through shaking hands and sleeping together. Indirect transmission occurs through objects such as pillows, blankets, towels, clothing, and bedsheets. This increases mite activity in humid and hot temperatures. This is consistent with research by Sajida (2012), which found that students often assume their mattresses and bedsheets are still clean, so they don't dry them in the sun or wash them every two weeks, and they are less likely to maintain bed hygiene.

Twelve respondents (14%) had good knowledge of scabies. This is because good knowledge doesn't necessarily mean good behavior. Good knowledge doesn't necessarily mean understanding or being able to apply it in action. Other factors influence behavior, such as habits, attitudes, and the influence of the surrounding community. Student behavior is a combination of knowledge and attitude.

Meanwhile, only one respondent (1.2%) had insufficient knowledge but had not experienced scabies. Although students with insufficient knowledge tend to practice PHBS well in their daily lives, they are still susceptible to scabies. Student behavior is a combination of knowledge and attitude. Individual awareness is crucial. This lack of awareness can be linked to a lack of knowledge about the importance of clean and healthy living behaviors.

2. The Influence of Clean and Healthy Living Behavior on the Incidence of Scabies

Based on the results of the logistic regression test where the *P* value is 0.000 (< 0.05), which means there is an influence between clean and healthy living behavior on the incidence of scabies with an OR value of 5.920. So it can be interpreted that children with PHBS are at approximately 5.920 more at risk of contracting scabies compared to children with good PHBS. From the results of the multivariate analysis, it was found that the variable level of clean and healthy living behavior is the most dominant factor influencing the incidence of scabies.

Based on the results of the cross tabulation in table 2, it was found that the majority of respondents who had PHBS were affected by scabies, as many as 33 respondents (38.4%), which means that they had not maximized their PHBS practice, namely not maintaining towel cleanliness, clothing cleanliness, body cleanliness, and hand cleanliness.

Towel hygiene factors include having shared towels with friends, using towels in a damp state, and not drying towels after use. This is also in line with Widuri, Candrawati, & Masluhiya AF (2017) who stated that students who shared towels with friends had a 3.3-fold greater risk of contracting scabies compared to students who did not share towels with friends. In addition, this study is in accordance with Sajida (2012) who stated that students are not recommended to share towels with other students, because this can easily transmit bacteria from one infected person to another. Also, if the towel has never been exposed to sunlight, the number of bacteria on the towel can be very high and is very risky to transmit to others.

Clothing hygiene factors include leaving clothes hanging in the room. This research aligns with Pratama (2017) who found that most students have poor habits related to changing clothes. This also aligns with Ismail (2015) who stated that clothing habits are a risk factor for scabies at the Al-Itqon Islamic Boarding School in Semarang. Respondents with poor clothing habits had a 2.734-fold increased risk of contracting scabies compared to respondents with good clothing habits.

Personal hygiene factors include sharing bar soap with friends. Sharing bathroom items facilitates the transmission of scabies. This is consistent with Muafida, Santoso, and Darmiah (2017), who stated that some students share soap. Soap is an item students routinely use for personal hygiene; sharing soap can lead to indirect transmission of scabies through contact.

A factor contributing to poor hand hygiene is not washing hands after activities. For people with skin diseases, especially scabies, transmission through unclean hands and nails can easily spread to other parts of the body. Scabies is also transmitted through direct contact, for example through touching, such as shaking hands. This research is supported by research by Noor Ayu Wandari (2022) which states that there is a relationship between personal hygiene behavior and the incidence of scabies, caused by the majority of scabies sufferers having poor personal hygiene behaviors such as skin cleanliness, hand and nail cleanliness, towel cleanliness, clothing cleanliness, and cleanliness of bedding and bed linen.

Seven respondents (8.1%) who had good PHBS still contracted scabies, possibly due to their friends' poor behavior, which made them susceptible to scabies. Furthermore, the lack of light entering the room, especially sunlight, facilitates the growth of germs such as bacteria and parasites. Research by Abdillah Saragih (2021) found that respondents who lived in rooms with poor lighting were 3.022 times more likely to contract scabies than students who lived in rooms with good lighting. Meanwhile, two respondents (2.3%) with poor PHBS did not experience scabies. A person with a weak immune system is more susceptible to scabies.

According to researchers, the influence of clean and healthy living behavior on the incidence of scabies is caused by the majority of scabies sufferers having adequate PHBS so that some students are still not optimal in maintaining towel cleanliness, cleanliness of clothing, body cleanliness, hand cleanliness. The lack of PHBS students in Islamic boarding schools can increase the incidence of scabies and the better PHBS a student has, the more it can indirectly prevent the occurrence of scabies.

CONCLUSION

Based on the results of research conducted at the Al-Ibtikary Islamic Boarding School in Karangany Trenggalek, it was found that 38 respondents (44.2%) had sufficient knowledge, while 48 respondents (55.8%) implemented clean and healthy living behaviors. However, there were still 54 respondents (62.8%) who experienced scabies. The results of the analysis showed that there was a significant influence between the level of knowledge ($p = 0.001 < 0.05$) and clean and healthy living behaviors ($p = 0.000 < 0.05$) on the incidence of scabies. This indicates that the better the level of knowledge and the implementation of clean and healthy living behaviors, the risk of scabies can be minimized.

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