

Factors Affecting the Incidence of Scabies in Darul Abror Modern Islamic Boarding School, Kace Village

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ABSTRACT

World Health Organization (WHO) data shows that the prevalence of scabies in 2014 was 130 million people in the world. Scabies or scabies is a skin disease caused by infestation and sensitization. Scabiei hominis variety. The method used is analytical observational with a case control design. The research was conducted on students at the Al Abror Islamic Boarding School, Kace Village, Bangka Regency. The results of the research showed that the highest age of students was 13 years old, 31 people (51%), the highest education was junior high school, 58 people (96.7%), the length of stay at the boarding school for > 1 year was 59 people (98.3%). Respondents who had good knowledge were 55 people (91.7%), 27 people had an agreeable attitude (45%), 51 people had good personal hygiene behavior (85%), 43 people had good sanitation observations (71.7%). Conclusion: researchers, knowledge, attitudes, personal hygiene behavior and environmental sanitation conditions in Islamic boarding schools both have a big influence on the spread of scabies. Students' knowledge about scabies greatly influences the incidence of scabies because knowledge is a very important source that influences students' thinking patterns and decision-making processes, students' lack of knowledge has a big influence on the spread of scabies skin disease.

INTRODUCTION

Islamic boarding schools are educational institutions combined between the boarding school and Islamic boarding school systems that provide Islamic religious education and teaching in a non-classical way. The students are provided with boarding houses and provide formal education in the form of a madrasa. Islamic boarding schools are still the teaching and learning place of choice for many people, one of which is the Abror Islamic boarding school in Kace Village, Bangka Regency. This Islamic boarding school is one of the large Islamic boarding schools in Bangka Regency with many students because it has schools from the Tsanawiyah madrasa level to the Aliyah college. The Islamic boarding school also has a dormitory which is a place for students to live, both from Bangka Regency and from other areas

The large number of students living permanently in the Abror Islamic boarding school causes high residential density and affects the health of the students. One of the health problems that occurs is scabies. Scabies often occurs in people who live in group or closed environments such as orphanages, quarantine hospitals, Islamic boarding schools, prisons, army barracks and so on.

Data from the World Health Organization (WHO) shows that the prevalence of scabies in 2014 was 130 million people in the world (Amelia, Sety and Tina, 2018). The prevalence of scabies in developing countries is higher in developed countries. In England in 1997-2005, scabies occurred in 3 people per 1,000 population. In Spain in 2012, the prevalence of scabies among immigrants was 4.1%. The prevalence of scabies in endemic areas in India is 13% and in slum areas of Bangladesh the prevalence in children aged 6 years is 29%. The number of students affected by scabies after direct checks by the Petaling Community Health Center Team at the Abror Modern Islamic Boarding School, Kace Village, Bangka Regency was found to be 53 students from 75 respondents who were directly checked. Of the 53 students affected by scabies, education has been provided and is undergoing treatment.

The prevalence of scabies in Indonesia has decreased from year to year as can be seen from the prevalence data in 2008 of 5.60-12.96%, in 2009 it was 4.90-12.95% and the most recent recorded data was that the prevalence of scabies was 3.9- 6%. Even though it has decreased, it can be said that Indonesia has not been free from scabies and until now it is still one of the infectious disease problems in Indonesia which ranks 3rd out of the 12 most frequent skin diseases (Ministry of Health of the Republic of Indonesia, in Ridwan, A. R. Sahrudin and karma, 2017).

Scabies or scabies is a skin disease caused by infestation and sensitization. Scabiei hominis variety. The clinical symptoms that arise are itching, especially at night (pruritus nocturna). The clinical signs that appear are papules or vesicles whose tops have an appearance that is actually a tunnel. This disease is a zoonotic disease that attacks the skin, is easily transmitted from human to human, from animal to human or vice versa and can affect all races and groups throughout the world.

The cardinal sign of scabies is first itching at night because scabies mite activity increases in more humid and hot temperatures. These two diseases attack humans in groups, for example in a family usually all members will be affected by this infection. Third, there are tunnels in predilection places that are white or grayish in color, straight or curved in shape and at the ends of the tunnels or vesicles are found. Fourth, finding mites is a diagnostic determinant.

High incidences of scabies are still found in almost all countries throughout the world with varying prevalence rates. The prevalence rate throughout the world is estimated to reach 300 million cases each year. In several developing countries, scabies is reported in 627% of the general population and the highest incidence occurs in school-aged children and adolescents. The incidence of scabies often occurs in school age children, the highest prevalence of scabies is found in children aged less than 15 years. 6.8 The prevalence of scabies throughout Indonesia is between 4,612.95%. 9 Scabies is ranked 7th out of 10 the main disease in Community Health Centers and ranks 3rd among the most common skin diseases in Indonesia.

Environmental sanitation in several Islamic boarding schools which are not kept clean is one of the factors that influences the transmission of scabies. One indication of an unclean room is the presence of dust in the room. In house dust there are house dust mites (TDR) *Dermatophagoides* sp. The mite's diet is to eat dead skin flakes. House dust mite (TDR) *Dermatophagoides* sp. role in breaking the cycle of life. Scabies that come off the body of scabies sufferers along with skin flakes that come off from scabies sufferers when scabies sufferers scratch their skin. To determine the factors that influence the occurrence of scabies in students of the Abror Islamic Boarding School, Kace Village, Bangka Regency

THEORETICAL REVIEW

Scabies is a skin disease caused by infection and sensitization of the human type *Sarcoptes scabiei* mite and its products in the body which hide under the outer layer of the skin. This disease attacks many children and can be transmitted through clothing, towels, bedding, etc. Dense populations, poor personal hygiene and dirty environments can facilitate the transmission of scabies. Scabies causes small reddish rashes and itching between the fingers, wrists, armpits, elbows, around the nipples of women's breasts, and on the male genitals (R clevere, 2013).

The name *Sarcoptes scabiei* is a derivative of the Greek words *sarx* which means skin and *koptein* which means cut and the Latin word *scabere* which means to scratch. Literally, scabies means itching of the skin, resulting in the activity of scratching the itchy skin. Currently, the term scabies means skin lesions that appear due to mite activity (Cordoro et al. 2012)

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personal hygiene and dirty environments can facilitate the transmission of scabies. Scabies causes small reddish rashes and itching between the fingers, wrists, armpits, elbows, around the nipples of women's breasts, and on the male genitals (R clevere, 2013).

Scabies or scabies is a skin disease caused by infestation and sensitization of the *S. scabiei hominis* variety. Tinea versicolor is an infection caused by the fungus *Pytropsorum orbicular*. This fungus is part of the normal flora of human skin and only causes problems in certain circumstances, for example when there is a lot of dryness. The parts of the body that are often affected are the back, upper arms, forearms, chest and neck. This disease is more often found in tropical climates (R clevere, 2013).

Clinical manifestations of scabies are:

- a) *Nocturnal pruritus, meaning itching at night caused by the activity of these mites is higher at more humid and hot temperatures.*
- b) This disease attacks humans in groups, for example in a family usually all family members are infected. Likewise, in a densely populated village, and living in an Islamic boarding school, most of the neighbors nearby will be attacked by these mites. Hyposensitization is known, in which all family members are affected, but do not produce symptoms. This patient is a carrier
- c) There is a tunnel (cuniculus) in predilection places which is greyish white in color, straight or curved in shape, with an average length of one cm, at the end of the tunnel a papule or vesicle is found. If a secondary infection occurs, the skin rash becomes polymorphic (pustules, excoriations, etc.). Predilection sites are usually places with a thin stratum corneum, namely between the fingers, wrists, outer elbows, front armpit folds, areola mammae (women), umbilicus, buttocks, external genitalia (men), and lower abdomen. In babies it can attack the palms of the hands and soles of the feet.
- d) Finding mites, the most diagnostic thing is to find one or more of the life stages of these mite
- e) The symptoms shown are redness, irritation and itching of the skin which generally appears between the fingers, elbows, groin and thigh folds, and watery bubbles appear on the skin (Natadisastra & Agoes, 2009)

Environmental sanitation in several Islamic boarding schools which are not kept clean is one of the factors that influences the transmission of scabies. One indication of an unclean room is the presence of dust in the room. In house dust there are house dust mites (TDR) *Dermatophagoides* sp. The mite's diet is to eat dead skin flakes. House dust mite (TDR) *Dermatophagoides* sp. plays a role in breaking the life cycle of *S. scabiei* which is released from the body of scabies sufferers along with skin fragments that come off from scabies sufferers when scabies sufferers scratch their skin. *Sarcoptes scabiei* lives in the stratum corneum (horny layer) of the skin and feeds on cell fluids. The mites burrow only into the upper layers of the skin and never reach below the stratum

corneum. The resulting tunnel appears as a thin, winding line that is gray or skin-like and reaches a length of more than 1 cm (CDC, 2010).

The life cycle of *Sarcoptes scabiei* from egg to adult mite takes 10-14 days, while female mites can live on their host for up to 30 days (Wardana, et al, CDC, 2010). Female mites dig tunnels under the surface of the skin and lay 2-3 eggs every day for 6 consecutive days, causing papules to appear on the skin. The eggs will hatch after 2-3 days (Arlian, 1989; CDC, 2010).

The scabies cycle is as follows, after copulation (mating) which occurs on the skin, the male mite will die, sometimes it can still live for several days in the tunnel dug by the female mite. Fertilized female mites dig tunnels in the stratum corneum at a speed of 2-3 millimeters a day while laying 2 to 50 eggs. This fertilized female form can live for a month. The eggs will usually hatch within 3 to 10 days and become larvae that have 3 pairs of legs. These larvae can stay in the tunnel, but can also leave the tunnel. After 2-3 days the larvae will become nymphs which have 2 forms, male and female, with 4 pairs of legs. The entire life cycle from egg to adult takes between 8-12 days.

Scabies activity in the skin causes itching and causes cellular and humoral immune responses and is able to increase IgE both in serum and in the skin. The incubation period lasts 4-6 weeks. Scabies is very contagious, transmitted through direct contact from skin to skin, and not directly through various contaminated objects (sheets, pillowcases, towels, etc.). Scabies mites can live outside the human body for 24-36 hours. Mites can be transmitted through sexual contact, even if a condom is used, because it is through skin contact outside the condom. The primary scabies lesion is in the form of a tunnel containing mites, eggs and metabolic products. When digging tunnels, mites secrete secretions that can lyse the stratum corneum. Secretions and excretions cause sensitization, resulting in pruritus (itching) and secondary lesions. Secondary lesions include papules, vesicles, pustules and sometimes bullae. Tertiary lesions can also occur in the form of excoriation, eczematization and pyoderma. Mites are only found in primary lesions. (Linuwih, 2016).

Scabies can be transmitted through direct contact or indirect contact. The most frequent is direct contact between each other or it can also be through tools such as bedding, towels and clothing. In fact, this disease can also be transmitted through sexual contact between sufferers and healthy people. In the United States, it is reported that scabies can be transmitted through sexual contact, although it is not the main consequence

This disease is closely related to personal and environmental cleanliness, or if many people live together in a relatively small place. If the level of awareness held by many groups of people is still quite low, the degree of involvement of the population in serving health needs is still lacking, there is a lack of health monitoring by the government, environmental factors, especially the problem of providing clean water, as well as failures in the implementation of health programs that we still often encounter, will add to existing environmental health problems.

Scabies transmission occurs when people sleep together in the same bed in households, schools that provide boarding and boarding facilities, as well as

health facilities used by the wider community. In Germany there has been an increase in incidence, as a result of direct and indirect contact such as sleeping together. Another factor is public facilities that are shared in densely populated areas (Linuwih, 2016)

METHODOLOGY

This type of research is analytical observational with a case control design. The research period took place around July to August 2023. The population used in this research were all students at the Daarul Abror Modern Islamic Boarding School, Kace Village, Bangka Regency, Bangka Belitung Islands Province. This research explains the factors causing the incidence of scabies that attacks female students at Islamic boarding schools. This research was conducted at the Daarul Abror Modern Islamic Boarding School, Kace Village, Bangka Regency, Bangka Belitung Islands Province. The research was conducted in July - August 2023.

The subjects of this research were students at the Daarul Abror Modern Islamic Boarding School, Kace Village, Bangka Regency who suffered from scabies and had a history of scabies according to predetermined criteria. This data uses primary and secondary data obtained from a number of students at the Daarul Abror Modern Islamic Boarding School. Those who are willing and agree to become participants in the research. With inclusion criteria: Students who suffer from scabies: Students who have a history of scabies, Live at the Darrul Abror Modern Islamic Boarding School, Willing to be respondents. Apart from that, in univariate analysis there are also central tendencies, standard deviations and estimates. Central tendency is a statistical measurement to determine a single score that determines the center of a distribution. Measures used in the description include central tendency (mean, median, and mode) including age. Frequency distribution is used to determine the distribution of research data. Measurements were carried out on special data variables including knowledge, attitudes, personal hygiene behavior, age and environmental sanitation.

RESULTS

Tabel 1. Characteristics of Santriwan based on age at the Daarul Abror Modern Islamic Boarding School, Village of Bangka Regency

Age	Frequenc y	Percen t	Valid Percen t	Cumulativ e Percent	Frequenc y	Percen t
12 Tahun	3	5,0	5,0	5,0	3	5,0
13 Tahun	31	51,7	51,7	56,7	31	51,7
14 Tahun	23	38,3	38,3	95,0	23	38,3
15	1	1,7	1,7	96,7	1	1,7

Tahun						
25Tahun	1	1,7	1,7	98,3	1	1,7
30 Tahun	1	1,7	1,7	100,0	1	1,7
Total	60	100,0	100,0		60	100,0

Based on table 4.1 a, it shows that of the 60 research respondents, it was found that the maximum age for santriwan was 30 years, 1 respondent (1.7) and with a minimum age of 12 years, 3 respondents (5.0).

Tabel 2. Characteristics of Santriwan based on education at the Daarul Abror Modern Islamic Boarding School, Village of Bangka Regency

Pendidikan	Frequency	Percent	Valid Percent	Cumulative Percent	Frequency	Percent
SMP	58	96,7	96,7	96,7	58	96,7
S1	2	3,3	3,3	100,0	2	3,3
Total	60	100,0	100,0		60	100,0

Based on table 2, it shows that of the 60 research respondents, 58 students (96.7%) were students who were currently studying junior high school. And there were 2 respondents who had studied S1 (3.3%)

Tabel 3. Characteristics of Santriwan based on length of stay at the Daarul Abror Modern Islamic Boarding School, Kace Village, Bangka Regency

Long	Frequency	Percent	Valid Percent	Cumulative Percent
> 1 Year	59	98,3	98,3	98,3
< 1 year	1	1,7	1,7	100,0
Total	60	100,0	100,0	

Based on table 3, it shows that out of 60 research respondents, 1 respondent (1.7%) lived in the cottage for less than 1 year. And respondents who lived in cottages for more than 1 year were 59 respondents (98.3%).

Tabel 4. Tabel Karakteristik Santriwan based on knowledge of the incidence of scabies at the Daarul Abror Modern Islamic Boarding School, Kace Village, Bangka Regency

Knowledge	Frequency	Percent	Valid Percent	Cumulative Percent
Baik	55	91,7	91,7	91,7
Sedang	5	8,3	8,3	100,0
Total	60	100,0	100,0	

Based on table 4.2.a. The results of research with 60 respondents showed that students' knowledge of the incidence of scabies was in the good category, namely 55 respondents (91.7%), while in the moderate category there were 5 students (8.3%).

Tabel 5. Characteristics of Santriwan based on attitudes towards the incidence of scabies at the Daarul Abror Modern Islamic Boarding School, Kace Village, Bangka Regency.

Attitude	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	8	13,3	13,3	13,3
Agree	27	45,0	45,0	58,3
Strongly agree	25	41,7	41,7	100,0
Total	60	100,0	100,0	

Based on table 4.2, the research was successful with a total of 60 respondents who showed an attitude of disagreement, 8 respondents (13.3%), agreed, 27 respondents (45.0%), strongly agreed, namely 25 respondents (41.7%).

Tabel 6. Characteristics of Santriwan based on personal hygiene behavior on the incidence of scabies at the Daarul Abror Modern Islamic Boarding School, Kace Village, Bangka Regency.

Attitude	Frequency	Percent	Valid Percent	Cumulative Percent
Good	51	85,0	85,0	85,0
CURRENTLY	9	15,0	15,0	100,0
Total	60	100,0	100,0	

Based on table 4.2.c. .The research was successful with 60 respondents showing good personal hygiene, 51 respondents (85.0%), while 9 respondents (15.0%)

Table 7. Characteristics of Santriwan based on environmental sanitation observations of the incidence of scabies at the Daarul Abror Modern Islamic Boarding School, Kace Village, Bangka Regency.

Environment sanitation	Frequency	Percent	Valid Percent	Cumulative Percent
VERY GOOD	14	23,3	23,3	23,3
Good	43	71,7	71,7	95,0
CURRENTLY	2	3,3	3,3	98,3
Bad	1	1,7	1,7	100,0
Total	60	100,0	100,0	

Based on table 4.2.d, research was successful with a total of 60 respondents who showed that observations of environmental sanitation were very good, 14 respondents (23.3%), good, 43 respondents (71.7%), while 2 respondents (3.3%), poor 1 respondent (1.7%)

DISCUSSION

In the opinion of researchers, knowledge, attitudes, personal hygiene behavior and environmental sanitation conditions in Islamic boarding schools both have a big influence on the spread of scabies. Students' knowledge about scabies greatly influences the incidence of scabies because knowledge is a very important source that influences students' thinking patterns and decision-making processes, students' lack of knowledge has a big influence on the spread of scabies skin disease. The decision-making process or attitude of the students also influences the formation of the actions of the students themselves. Student personal hygiene behavior that is still poor, such as bathing without using soap, frequently changing clothes, exchanging towels with other students, will increase the risk of contracting scabies. These bad habits are very difficult to change because they have become the lifestyle of students at Islamic boarding schools. Apart from that, the environmental sanitation conditions at the Modern Daarul Abror Islamic boarding school in Kace Village, Bangka Regency are also unhealthy. The lack of available facilities and infrastructure also exacerbates the spread of scabies in this Islamic boarding school. So the relationship between knowledge factors, attitude factors, personal hygiene behavior factors, and environmental sanitation have the same influence on the incidence of scabies. All factors

provide support and strengthen each other in aggravating the transmission of scabies. This research is also supported by Restu (2015) that knowledge is essentially everything we know about a particular object. Attitude, namely the attitude of strongly agreeing, is the real manifestation of a thought, especially in terms of paying attention to something good. An attitude of strong agreement is a person's mental state that is maintained through efforts when something happens to him so as not to divert a person's mental focus to the negative. In determining this attitude, knowledge, thought processes, beliefs

and emotions play an important role because knowledge will stimulate a person to think and try to find a solution so that a person's attitude towards an object becomes good. Attitudes that are based on knowledge will last longer than attitudes that are not based on knowledge. Behavior is all human activities or actions, both those that can be directly observed and those that cannot be observed by external parties, the process of which is influenced by knowledge and attitudes or the decision-making process to determine healthy or unhealthy hygiene behavior. Poor personal hygiene coupled with the unhealthy sanitary conditions of the Islamic boarding school environment will make it easier for the body to be attacked by various skin diseases such as scabies.

CONCLUSIONS AND RECOMMENDATIONS

In the opinion of researchers, knowledge, attitudes, personal hygiene behavior and environmental sanitation conditions in Islamic boarding schools both have a big influence on the spread of scabies. Students' knowledge about scabies greatly influences the incidence of scabies because knowledge is a very important source that influences students' thinking patterns and decision-making processes, students' lack of knowledge has a big influence on the spread of scabies skin disease. The decision-making process or attitude of the students also influences the formation of the actions of the students themselves. Student personal hygiene behavior that is still poor, such as bathing without using soap, frequently changing clothes, exchanging towels with other students, will increase the risk of contracting scabies. These bad habits are very difficult to change because they have become the lifestyle of students at Islamic boarding schools. Apart from that, the environmental sanitation conditions at the Modern Daarul Abror Islamic boarding school in Kace Village, Bangka Regency are also unhealthy. There is also a lack of available facilities and infrastructure

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FURTHER STUDY

This research in the future can find solutions and improve the management and prevention of scabies in the pesantren environment. This research in the future can contribute as reference material that can be used as basic data.

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