

## A Study on Knowledge, Attitude and Practice in Preventing Transmission of Scabies in Pesantren Darul Fatwa, Jatinangor

Mahirah Binti Mohd Yusof<sup>1</sup>, Silvita Fitri R<sup>2</sup>, Yunita Damopolii<sup>3</sup>

<sup>1</sup>Faculty of Medicine, Universitas Padjadjaran, <sup>2</sup>Department of Parasitology, Faculty of Medicine, Universitas Padjadjaran, <sup>3</sup>Department of Dermatology and Venereology, Faculty of Medicine, Universitas Padjadjaran/Dr. Hasan Sadikin General Hospital Bandung

### Abstract

**Background:** Scabies is caused by infestation and sensitization of *Sarcoptes scabiei* and is an endemic in tropical and subtropical regions around the world. Several factors in the disease transmission are overcrowded living conditions, poor personal hygiene, unhealthy behaviors and population density. Pesantren is a specific name for an educational Islamic institution in Indonesia and which could be one of the risk factors of the transmission of the disease. Most of the students (santri) are staying at the institution for a long time. The objective of this study was to know the level of knowledge, attitude and practice of santri in preventing scabies.

**Methods:** A descriptive study was conducted on 45 santri in Pesantren Darul Fatwa in Jatinangor during September–December 2012. A questionnaire was set up consisting of questions about age, sex, basic knowledge, attitude, and practice of preventing the transmission of scabies. Data were analyzed using frequency distribution.

**Results:** The level of knowledge and attitude of the respondents to prevent the transmission of scabies were good, meanwhile the level of practice was moderate. There were still questions that could not be answered by the respondents those were the etiology (31.1%), the cut off chain of transmission (40%), and how to prevent scabies (37.8%). Not washing the towel, changing the bed linen and pillow case every 2 weeks were the less good practice performed by the respondents.

**Conclusions:** The knowledge and attitude towards the prevention of transmission of scabies are good while the practices are moderate. A further study with more sample size should be carried out including environmental assessment.

**Key words:** Attitude, knowledge, practice, scabies

### Introduction

Scabies is a skin disease caused by infestation and sensitization to *Sarcoptes scabiei* mites and is an endemic in tropical and subtropical areas such as Egypt, Central and South America, Africa, India, and Southeast Asia.<sup>1</sup> According to a World Health Organization (WHO) report scabies has a potential to bring about an epidemic condition in an area. This condition was found among others in Bangladesh where children under-6-year-old were affected within a period of 12 months, India (13%), Australian Aboriginal communities (50%) and in Sierra Leone (86%).<sup>2</sup> Incidence in Indonesia was 4.60–12.95% in 2002 and was in the third-ranking of the other 12 common diseases.<sup>3</sup>

Scabies occurs mostly to very young, and

older children, also young adults, because they are more vulnerable to many skin diseases and reflect reduced immunity.<sup>1,2</sup> Scabies often occur to children living in boarding schools as they live together with a group of people which will lead to an easy and high risk condition for contracting various contagious diseases especially skin diseases.<sup>4</sup> Scabies also most often is a result from unhealthy behaviors, such as hanging clothes in the room, exchanged clothes and personal items and also sharing bedding. The transmission of scabies can be divided into two: direct contact (skin to skin) such as by shaking hands, sleeping together and sexual relations, and indirect contact are such as sharing things like clothes, sheets, towels and others.<sup>3</sup> Several factors that also play a role in disease transmission are low socioeconomic conditions, poor personal

**Correspondence:** Mahirah Binti Mohd Yusof, Faculty of Medicine, Universitas Padjadjaran, Jalan Raya Bandung-Sumedang Km.21, Jatinangor, Sumedang, Indonesia, Phone: +62 838 2016 4451 Email: mahirahmohdyusof@yahoo.com

and environmental hygiene, unhealthy behavior and population density.<sup>4</sup> The lack of knowledge about personal hygiene affects the increased number of incidence of scabies 15% due to rarely taking a shower, and 42% due to frequently sharing clothes with friends.<sup>5</sup>

According to Bloom's theory in Notoatmodjo<sup>6</sup>, behavior includes knowledge, attitude and practice of an individual. Knowledge is a cognitive domain and is the result of knowing people's sense of any particular object which is important for the formation of a person's actions (overt behavior). Meanwhile, attitude is a readiness or willingness to act, and not an implementation of a particular motive.

Pesantren or Pondok Pesantren is a specific name for an educational Islamic institution in Indonesia, and throughout the Malay region<sup>7</sup>. This institution is not only the center for Islamic studies but also for the spreading of Islam.<sup>7</sup> During the day, students attend formal school like any other students outside of pesantren, and in the late afternoon and evening they have to attend religious rituals followed by religious studies and group studies to complete their education. Most of the students stay at the institution for a long time according to the regulation of the pesantren.

Due to the unique epidemiology of scabies, pesantren could be one of the risk factors for the transmission of the disease. A study in Kendal<sup>8</sup> found that the prevalence was 27%. Another study by Ma'rufi<sup>9</sup> in Lamongan, East Java, found the prevalence of scabies among students was high i.e. 64,20%. There are many factors contributing to this high prevalence, among others are the lack of knowledge, attitude and practice among the santri (pesantren students). This study was conducted to know the level of knowledge, attitude and practice of santri in pondok pesantren Darul Fatwa in Jatinangor in efforts to prevent scabies.

## Methods

This study was conducted on 45 santri who studied and lived in Pesantren Darul Fatwa in Jatinangor for at least 2 months, during the period September–December 2012. The exclusion criteria included santri who could not complete the full process of data acquisition by a variety of reasons. A questionnaire was set up consisting of questions about age, sex, basic knowledge of scabies such as clinical etiology, symptoms,

risk factors, prevention, treatment, attitude, and practice of santri towards scabies in order to prevent scabies in pondok pesantren. This questionnaire was tested to 30 respondents and Cronbach's Alpha was performed. The test showed that coefficient reliability was 0.744.

The level of knowledge, attitude, and practice was measured using a scoring system as follows: Good : score is  $\geq 75\%$ , Moderate : score is 40%–74%, and Poor : when the score is  $< 40\%$ .<sup>10</sup> Data were analyzed using frequency distribution.

## Results

Male respondents with a mean age of 15 years old comprised the highest percentage of the respondents (55.6%).

The level of knowledge of the respondents in the effort to prevent scabies was generally good (68.9%), the level of attitude was good (80.0%), and the level of practice based on personal hygiene was moderate (60%) (Table 1).

In general, the majority of respondents could answer all the questions about scabies correctly except for three questions, those were the etiology of scabies (31.1%), what to do to break the transmission of scabies (40%), and how to prevent scabies (37.8%)

According to Table 3, 28 respondents (62.2%) answer agree to dry mattress and pillows every week and it showed that the majority of them strongly agree that they should be aware of scabies even though it does not lead to death which comprised about 66.7% (30 respondents). However, 4 respondents (8.9%) showed less agree to the statement that good personal hygiene could keep the body free from scabies.

Majority of the respondents had a good practice of personal hygiene (Table 4). For the questions of how many times the respondents change clothes during the day, mostly answered 2 or 3 times per day with 46.7% and 44.4% respectively. Unfortunately, the highest percentage of practices to spread the disease was washing the towel, changing the bed linen and pillow case every 2 weeks. While there, were still 46.7% of respondents who practiced bed sharing.

## Discussions

According to Notoatmodjo<sup>6</sup>, the level or quality of knowledge can be grouped into

**Table 1 Distribution of respondents based on level of knowledge & attitude**

	Frequency, (Total, n = 45)	Percentage (%)
Level of knowledge		
Good (score : ≥ 27 marks)	31	68.9
Moderate (score : 15–26 marks)	14	31.1
Poor (score : ≤14 marks)	0	0
Level of attitude		
Good (score : ≥ 23 marks)	36	80.0
Moderate (score : 13–22 marks)	9	20.0
Poor (score : ≤12 marks)	0	0
Level of practice		
Personal hygiene		
Good (score : ≥ 16 marks)	17	37.8
Moderate (score : 9–15 marks)	27	60.0
Poor (score : ≤8 marks)	1	2.2
Habits		
Good (score : ≥ 16 marks)	31	68.9
Moderate (score : 9–15 marks)	14	31.1
Poor (score : ≤8 marks)	0	0

6 levels, where each level is a sequence of processes from the lowest to the highest level. The lowest level is knowing which is defined as memorizing a material. In this stage, it involves recalling the things that have received stimuli before. The second level is called comprehension, the ability to correctly describe the disease of scabies. The third level is application, the ability in applying the knowledge in everyday life. The next levels are analysis, synthesis and evaluation.

In this study, the level of the respondents' knowledge was more than level one. Because most of the respondents could apply the knowledge of preventing the transmission of scabies in daily life activities such as doing good practices of personal hygiene. However, health education should be carried out since there were still respondents who did not know about the etiology, what to do to break the transmission, and how to prevent scabies. Furthermore, there was no Unit Kesehatan Sekolah (UKS) provided for the santri in the pesantren.

Attitude is the assessment toward the stimulus or objects and in this case it is a matter of health, including illness. Once a

person knows the illness, the next process will be to assess or show attitude towards the illness. Therefore, an indicator for the health attitude starts with the knowledge of health itself. The level of attitude of santri towards the scabies disease was good because they had a good knowledge about it.<sup>6</sup> Unfortunately, there were still 20.0% of santri under moderate level of attitude even they had a good level of knowledge. This is because the development of attitude is a process that is not only influenced by knowledge but also involves emotional, past experience and the environment of living conditions.<sup>11</sup>

In this study the level of practice of the respondents' personal hygiene and habits were on a moderate and good level respectively. Researchers assume this might be due to the facilities provided and there were good supports surrounding them in order to practice good personal hygiene and habits. Besides that, according to the theory of S- O-R, practice is produced by the stimulus given (knowledge) and the attitude towards it.<sup>6</sup> It can be proven that when someone has a good knowledge and a good attitude, then it will cause that person to have a good practice

**Table 2 Distribution of Respondents Based on Type of Knowledge**

No	Question about knowledge	Answer	Frequency (n)	Percentage (%)
1	Have you ever heard of scabies disease	Yes	28	62.2
		No	17	37.8
2	What is the cause (etiology)	Sarcoptes scabiei	14	31.1
		Germs	28	62.2
3	What are the sign and symptoms	The effect of scratching	3	6.7
		Got small to large spots which are reddish and wet	35	77.8
		Itching at night and feel the heat	10	22.2
		with pus	0	0.0
4	Parts of body that are affected	Between fingers, armpits, waist, genitals, elbows, and wrists	30	66.7
		Part that is often being covered	13	28.9
		Mostly at genital area	2	4.4
5	The transmission of scabies disease	Skin to skin contact and through clothes, towels, bed linen, and other things used by the patient	33	73.3
		Through skin contact only	4	8.9
		Through clothes and bed only	8	17.8
6	Who can suffer from scabies	All age groups but more common in teenagers	39	86.7
		Teenagers only	1	2.2
		Only in certain age groups	5	11.1
7	Can exchanging clothes with an infected person spread scabies	Yes, can spread	22	48.9
		When an immunity is low	17	37.8
		No, cannot be spread	6	13.3
8	Can scabies be harmful to the health of skin	Yes	37	82.2
		No	8	17.8
9	Does the patient need to be quarantined	No, just need regular treatment	35	77.8
		Just keep a distance from patient	7	15.6
		Yes, need to be quarantined	3	6.7
10	What should we do to break the chain of scabies disease	Disinfection on clothing, bed linen and give treatment simultaneously	18	40.0
		Keep a distance with others when being infected by <i>Sarcoptes scabiei</i>	6	13.3
		Need regular treatment only	21	46.7
11	Can drying mattress and pillow prevent scabies	Yes	27	60.0
		No	18	40.0
12	How to prevent scabies	Bath 2 times per day with soap and prevent direct contact with the patients	17	37.8
		Bath 2 times per day and keep the cleanliness of clothes	11	24.4
		Keep clothing, towels and bedding from being contaminated with scabies sufferers	17	37.8

**Table 3 Distribution of Respondents based on Types of Attitude**

No	Types of attitude	Answer	Frequency (n)	Percentage (%)
1	Mattresses and pillows are dried every week	Strongly agree	28	62.2
		Agree	17	37.8
		Less agree	14	31.1
2	Scabies sufferers have to be quarantined	Strongly agree	30	66.7
		Agree	13	28.9
		Less agree	2	4.4
3	Did not exchange clothes, towels and bedding with others	Strongly agree	25	55.6
		Agree	20	44.4
		Less agree	0	0
4	Scabies patients do not need to be avoided	Strongly agree	15	33.3
		Agree	22	48.9
		Less agree	8	17.8
5	Personal hygiene is very necessary to keep the body free from scabies	Strongly agree	33	73.3
		Agree	8	17.8
		Less agree	4	8.9
6	To keep distance from scabies sufferers is really necessary or needed	Strongly agree	12	26.7
		Agree	18	40.0
		Less agree	15	33.3
7	Scabies can be prevented by maintaining a good personal hygiene	Strongly agree	27	60.0
		Agree	18	40.0
		Less agree	0	0
8	If found cases of scabies, treatment should be done quickly to prevent the transmission of disease	Strongly agree	25	55.6
		Agree	18	40.0
		Less agree	2	4.4
9	Besides personal hygiene, there must be a good environment in order to prevent scabies	Strongly agree	35	77.8
		Agree	10	22.2
		Less agree	0	0

as well. When someone has known or get information about something, he would do and practice it.<sup>10</sup>

However there were 1 respondents who still practiced bad personal hygiene such as washing towel and changing bed linen after 2 weeks or more. The reason was f lack of facilities. The pesantren was not provided with laundry facilities and they had to wash by themselves. Besides that, there was no extra bed sheet available so that they can change it every week,

and some of the respondents even did not use bed sheets. Some of the respondents also practised bad habits by borrowing the towel, clothes and often sleep in other person's bed. This might be due to insufficient toiletries owned by respondents and it already became a habit for a santri to sleep in other person's bed as most of them were being influenced by their friend's practice. According to a theory of the WHO, there are 4 factors for a person to have a certain practice or behavior. This

**Table 4 Distribution of respondents based on types of practice**

Types of practice	Answer	Frequency (n)	Percentage (%)
Personal hygiene	Change clothes 3x	20	44.4
	Change clothes 2x	21	46.7
	Change clothes 1x	4	8.9
	Bath 3x	3	6.7
	Bath 2x	41	91.1
	Bath 1x	1	2.2
	Wash towel once a week	14	31.1
	Wash towel every 2 weeks	19	42.2
	Wash towel > 2 weeks	12	26.7
	Change bed linen < 1 week	12	26.7
	Change bed linen every 2 weeks	22	48.9
	Change bed linen > 2 weeks	11	24.4
	Change pillowcase every week	16	36.6
	Change pillowcase every 2 weeks	22	48.9
	Change pillowcase > 2 weeks	7	15.6
	Drying mattress once a week	11	24.4
	Drying mattress every 2 weeks	17	37.8
	Drying mattress once a month	17	37.8
	Drying pillow every week	14	31.1
	Drying pillow for every 2 weeks	16	35.6
Drying pillow once a month	15	33.3	
Habits	Never borrow a friend's towel	24	53.3
	Rarely borrow a friend's towel	17	37.8
	Often borrow a friend's towel	4	8.9
	Towel never being borrowed by friend	19	42.2
	Towel rarely borrowed by friend	19	42.2
	Towel often borrowed by friend	7	15.6
	Never sharing clothes with friends	21	46.7
	Rarely sharing clothes	22	48.9
	Often sharing clothes	2	4.4
	Clothes never being borrowed by friend	16	35.6
	Clothes rarely borrowed by friend	24	53.3
	Clothes often borrowed by friend	5	11.1
	Never sleep in other's bed	18	40.0
	Rarely sleep in other's bed	21	46.7
	Often sleep in other's bed	6	13.3
	Friends never sleep in your bed	6	13.3
	Friends rarely sleep in your bed	30	66.7
	Friends often sleep in your bed	9	20.0
	Often drying towel after use	22	48.9
	Rarely drying towel after use	17	37.8
Never drying towel after use	6	13.3	

includes thought and feelings like knowledge, perception, attitude and belief, and other 3 factors are personal reference, resources (facilities) and culture.<sup>6</sup>

A small sample size could be one of the limitations in this study. Another limitation was the possibility of bias data influenced by the reluctance to answer questions related to the bad image of the pesantren.

This study concluded that the knowledge and attitude towards the prevention of transmission of scabies were good while the practices were moderate. A further study with more sample size should be performed including an environmental assessment.

## References

1. Walton SF, Currie BJ. Problems in diagnosing scabies, a global disease in human and animal populations. *Clin Microbiol Rev.* 2007;20(2):268-79.
2. Feldmeier H, Heukelbach J. Epidermal parasitic skin diseases: a neglected category of poverty-associated plagues. *Bull World Health Organ.* 2009;87:152-9.
3. Djuanda A, Djuanda S, Hamzah M, Aisah S. Ilmu penyakit kulit dan kelamin. 4th ed. Jakarta: Badan Penerbit FKUI; 2005. p. 122-125
4. Saad S. Pengaruh faktor higiene perorangan terhadap angka kejadian skabies di pondok pesantren An-Najach Magelang [dissertation]. Semarang: Diponegoro University; 2008.
5. Kumalasari R. Hubungan tingkat pengetahuan dengan timbulnya kejadian skabies di Pondok Pesantren Modern Islam (PPMI) Assalam Sukoharjo [dissertation]. Surakarta: Universitas Muhammadiyah; 2011.
6. Notoatmodjo PDS. Pendidikan dan perilaku kesehatan. Jakarta: Rineka Cipta. 2003. p. 114-128
7. Zakaria GAN. Pondok pesantren: changes and its future. *Journal of Islamic and Arabic Education.* 2010;2(2):45-52.
8. Megawati R, Santosa B, Sumanto D. Gambaran kejadian penyakit scabies di Ponpes Al Itqon Di Patebon Kendal. *Jurnal Litbang Universitas Muhammadiyah Semarang.* 2005;5(2):18-22
9. Ma'rufi I, Keman K, Notobroto HB. Faktor sanitasi lingkungan yang berperan terhadap prevalensi penyakit scabies: studi pada santri di pondok pesantren Kabupaten Lamongan. *Jurnal Kesehatan Lingkungan.* 2005;2(1):11-8
10. Muzakir. Faktor yang berhubungan dengan kejadian penyakit skabies pada pesantren di Kabupaten Aceh Besar Tahun 2007 [thesis]. Medan: Universitas Sumatera Utara; 2008
11. Andayani LS. Perilaku santri dalam upaya pencegahan penyakit skabies di pondok pesantren Ulumu Qur'an Stabat. *USU Institutional Repository.* 2005;9(2):172-7.