

ORIGINAL ARTICLE

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## RELATIONSHIP BETWEEN LENGTH OF STAY AND TOTAL STUDENT WITH SCABIES IN ISLAMIC BOARDING SCHOOLS IN BONDOWOSO

Siti Riskika<sup>1\*</sup>, Sulistiawati<sup>2</sup>, Eka Mishbahatul<sup>3</sup>

1 Master Student in Nursing, Faculty of Nursing, UniversitasAirlangga Surabaya, Indonesia

2 Department of Medicine, Faculty of Medicine, UniversitasAirlangga Surabaya, Indonesia

3 Department of Nursing, Faculty of Nursing, UniversitasAirlangga Surabaya, Indonesia

\* Corresponding: [sitiriskika@ymail.com](mailto:sitiriskika@ymail.com)

### Abstract

Scabies is a common contagious parasitic skin disease and a public health problem, mainly in tropical and subtropical countries. Scabies transmission occurs through direct and prolonged contact, and possibly through sharing contaminated clothing or bedding. Excoriation of lesions can lead to secondary bacterial superinfections. This study aimed to explain correlation between length of stay and total santri in one room in boarding schools. This study used a cross-sectional study with a chi-square method. The samples were 104 respondents recruited by simple random sampling, variable independent is total santri in one room and length of stay in boarding schools and variable dependent is an experience of scabies. Data analysis was performed and presented in descriptive statistics and chi-square tests. The results showed that the highest length of stay in boarding schools is more than two years 64 respondents (61.5%), the highest total santri in one room more than 30 people 72 respondents (69.2%), and santri with experience of scabies is 79 (76%). Chi-square test showed that correlation between total santri in one room and experience of scabies with *p-value* 0,01 (<0,005) that mean there is a significant relationship between total santri in one room with incidence scabies in santri, and chi-square test for correlation between length of stay in boarding schools and experience of scabies with *p-value* 0,00 (<0,05) that mean there is significant relationship between length stay of boarding schools and incidence of scabies in santri. There is a significant relationship between the long stay of boarding schools and total santri in one room with the incidence of scabies in santri.

**Keywords:** scabies, santri, boarding schools.

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### Introduction

Scabies is an infectious skin disease that is endemic in the tropics and mostly occurs in low-income countries (1). Scabies is inseparable from poor hygiene in population density (2). Another thing that can also cause scabies is living in a full and crowded

environment, and among children who live in crowded places (3). General health conditions in boarding schools are still in desperate need of attention, related to access to health care, a clean and healthy lifestyle, and healthy environmental aspects (4). Scabies caused by mites *Sarcoptes scabiei* will develop rapidly if environmental conditions are poor and are not supported by clean and healthy living behavior by santri (5).

The high level of occupancy density, physical contact between individuals as well as low levels of cleanliness can lead to the easy occurrence of scabies (6). Research in East Jakarta showed that the prevalence of scabies reached 51,6% (7). Another study conducted at Jember Islamic Boarding Schools showed that 34 people in 2016 infected by scabies (8).

Santri who experience scabies is impaired in their quality of life due to very severe complaints of itching accompanied by heat and secondary infections. This can reduce students' academic and non-academic achievements (3). Research on scabies is important, because scabies is a common and recurring skin disease, especially in Islamic boarding schools. This is useful for identifying the vulnerability of scabies.

## **Objectives**

This study aimed to examine the relationship between length of stay in boarding schools and total santri in one room with an incidence of scabies in santri.

## **Methods**

A cross-sectional was applied in this study. The population in this research are santri in Islamic Boarding Schools X in Bondowoso. One hundred samples were selected by using consecutive sampling technique. The Inclusion criteria of this study as follows: 1) student stayed at Islamic boarding schools, 2) aged between 12-18 years, 3) junior high school level of education. The student who did not stay at an Islamic boarding school during data collection process were excluded in this study.

Data were collected by using questionnaire with interview about how many total students in one room and, how long stay at Islamic boarding schools, and any experience of scabies. was contain about age, gender, length of stay in boarding schools, total santri in one room and the incidence of scabies. Data were analyzed by using the chi-square test with a significant level (p-value <0,05).

The study was approved by the research ethics committee of the Faculty of Nursing, Universitas Airlangga. All respondents were informed of the purpose of the study and consented for their participation in the study.

## **Results**

### **Frequency length of stay among student at boarding schools**

Table 1 showed the frequency length of stay among student at boarding schools. The findings explained that most student has stayed at boarding schools more than 2 years (61,5%). About 38.5% has been stayed at school less than 2 years. Details of explanation were summarized in table 1.

Table 1 Frequency length of stay among student at boarding schools (n=104)

Length of stay	n	%
≤ 2 years	40	38.5
>2 years	64	61.5
Total	104	100

### Frequency of total student in one room

Table 2 showed the frequency total student in one room among student at Islamic boarding schools. The findings explained that total student stayed in one room are more than 30 students. Details of explanation were summarized in table 2.

Table 2 Frequency of total student in one room (n=104)

Total student in one room	n	%
≤ 30 people	32	30.8
> 30 people	72	69.2
Total	104	100

### Frequency of student has experience of scabies

Table 3 showed the frequency of student has experience of scabies during stay at Islamic boarding schools. The findings explained that student has experience of scabies during stay at Islamic boarding schools were 76%. Details of explanation were summarized in table 3.

Table 3 Frequency of student has experience of scabies (n=104)

Experience of scabies	n	%
No	25	24
Yes	79	76
Total	104	100

### Relationship between length of stay at boarding schools with experience of getting scabies diseases

Table 4 showed relationship between length of stay at boarding schools with experience of getting scabies diseases during stay at Islamic boarding schools. The findings explained that there is relationship between length of stay at boarding schools and with experience of scabies with  $p\text{-value} < 0,05$ . Details of explanation were summarized in table 4.

Table 4 relationship between length of stay at boarding schools with experience of getting scabies diseases (n=104)

Length of stay in boarding schools	Experience of scabies		Total	P-Value
	No	Yes		
≤ 2 years	17 42,5%	23 57,5%	40 100%	0,01
>2 years	8 12,5%	56 87,5%	64 100%	
Total	25 24%	79 76%	104 100%	

## Relationship between total students in one room with experience of getting scabies diseases

Table 5 showed relationship between total students in one room with experience of getting scabies diseases during stay at Islamic boarding schools. The findings explained that there is relationship between total students in one room with experience of getting scabies diseases with  $p\text{-value} < 0,05$ . Details of explanation were summarized in table 5.

Table 5 Relationship between total students in one room with experience of getting scabies diseases (n=104)

Total student in one room	Experience of scabies		Total	P-Value
	No	Yes		
≤ 30 people	17 53,1%	15 46,9%	32 100%	0,00
>30 people	8 11,1%	64 88,9%	72 100%	
Total	25 24%	79 76%	104 100%	

## Discussion

The results showed that the incidence scabies in an Islamic boarding school in Bondowoso more than half of the respondents. students who getting scabies during stayed at Islamic boarding school were 79 respondents or 76%. It was indicated that scabies still infected at an Islamic boarding school. This study supported by Nuraini's study mentioned that scabies diseases were high among student at boarding school (8). Another study from Yotsu *et al* about the prevalence of neglected skin disease is important for early detection because scabies is one of the neglected skin disease (9). Islamic boarding schools become one of the places with a high risk for the occurrence of scabies due to a fairly high population density and diverse personal and environmental hygiene (10). Another study from Lydeamore *et al* showed that all people could be infected with scabies, therefore age cannot be used as a measure for scabies detecting (11). In consistent with study by Romani *et al* mentioned that all ages have an equal risk of infection with scabies (12). Based on the fact that the research conducted shows that there are still scabies infections in Islamic boarding schools, it is important to carry out prevention and handling efforts as early as possible to prevent transmission to other santri or recurrent scabies in santri.

The results in this study in length of stay in boarding schools the highest is more than 2 years are 64 respondents (61,5%). The length of stay in a boarding school means that someone has occupied a boarding school in a period more than years, this time can be said to be quite long and has quite a lot of experience, both in socializing and daily life (13). The majority of the boarding school's living facilities are used together for example mattresses, carpets, pillows, and blankets. Scabies transmission occurs through direct and prolonged contact, and possibly through sharing contaminated clothing or bedding. Infestation causes intense pruritus, particularly at night, often causing sleep disruption. Excoriation of lesions can lead to secondary bacterial superinfections, therefore treating an infestation early during the disease process may prevent bacterial superinfection and scabies transmission to close contacts, and treating scabies in a community leads to a concurrent reduction in rates or pyoderma (14). Living in a dense environment and for a

long time can make it possible to contract scabies, but Islamic boarding schools are one of the right places to study, the thing that must be considered so as not to get infected with scabies is maintaining good personal and environmental hygiene, then by doing this, students will not easily contract scabies.

The incidence of scabies is 79 respondents (76%) are having experienced scabies while living in boarding schools. Epidemiological studies indicated that the prevalence of scabies is not affected by sex, race, or age and that the primary contributing factors in contracting scabies seem to be poverty and overcrowded living conditions(15). Another factor that can cause a person to experience scabies is the transmission of *Sarcoptes scabiei* on the skin directly or indirectly from patients who have experienced scabies to others or from clothing and the other personal items (16). Scabies can be transmitted through unfavorable habits of santri, for example sharing clothes with others, hijab, soap, toiletries, and other personal items (17). Islamic boarding schools place for santri to study and live in daily life, because the santri who study in Islamic boarding schools will live and live in that place. The length of stay in Islamic boarding schools is the one-off experience for santri to learn the pesantren's habits and live cycle. Therefore it is important for santri to take care of each other's health and cleanliness of themselves and their environment, because by keeping each other clean between santri and other it can be as early as possible to prevent the occurrence of santri especially those who live in Islamic boarding schools.

The cross-sectional with chi-square test showed there is a significant value between the length of stay in boarding schools with experience of scabies with *p-value* 0,01 (<0,05) and total santri in one room with experience of scabies with *p-value* 0,00 (<0,05). Based on the chi-square test showed that there is a significant relationship between the length of stay in boarding schools and total santri in one room with experience of scabies. Based on research from (18) showed that scabies can be infected scabies for living together with personal hygiene and bad environments. Living in an Islamic boarding school will be comfortable and quiet if the santri keep each other's cleanliness both themselves and the environment.

## Conclusion

This study informed the relationship between length of stay at boarding schools and total student in one room with incidence scabies. This situation need to be considered among student and teacher to prevent the transmission of scabies diseases in boarding school.

## References

1. Edison L, Beaudoin A, Goh L, Introcaso CE, Martin D, Dubray C, et al. Scabies and Bacterial Superinfection among American Samoan Children, 2011 – 2012. *Plos one*. 2015;10(10): e0139336
2. Kouotou EA, Nansseu JRN, Kouawa MK, Bissek AZ. Prevalence and drivers of human scabies among children and adolescents living and studying in Cameroonian boarding schools. *Parasit Vectors*. 2016;4–9.
3. Kabbash IA. Scabies among primary school children in Egypt : a sociomedical environmental study in Kafr El-Sheikh administrative area. *Dovepress*. 2015;105–11.
4. Susanto T, Sulistyorini L, Wuri E. ScienceDirect School health promotion : A cross-sectional study on Clean and Healthy Living Program Behavior ( CHLB ) among

- Islamic Boarding Schools in Indonesia. *Int J Nurs Sci.* 2016;4–11.
5. Kouotou EA, Nansseu JRN, Sangare A, Bogne M, Sieleunou I, Adegbidi H. Burden of human scabies in sub-Saharan African prisons : Evidence from the west region of Cameroon. *Australas J Dermatol.* 2018;59(1):e6-e10
  6. White LCJ, Lanza S, Middleton J, Hewitt K. The management of scabies outbreaks in residential care facilities for the elderly in England : a review of current health protection guidelines. *Epidemiol Infect.* 2016;144(15):3121-3130
  7. Ratnasari AF, Sungkar S. Prevalensi Skabies dan Faktor-faktor yang Berhubungan di Pesantren X, Jakarta Timur. 2014;2(1).
  8. Nuraini N, Wijayanti RA, Studi P, Medik R, Kesehatan J, Negeri P. faktor risiko kejadian scabies di pondok pesantren nurul islam jember ( scabies risk factors in pondok pesantren nurul islam jember ). 2017;1(2):137-41.
  9. Vagamon B, Konan N, Yotsu RR, Abbet R, Agbor BT, Akpa J, et al. Skin disease prevalence study in ^te d ' Ivoire : schoolchildren in rural Co Implications for integration of neglected skin diseases ( skin NTDs ). 2018:1–18.
  10. Furuya K, Nakajima H, Sasaki Y, Ishiko A, Urita Y. A scabies outbreak in a diabetic and collagen disease ward : Management and prevention. *Exp Ther Med.* 2016, 12(6);3711–5.
  11. Lydeamore MJ, Campbell PT, Cuningham W, Andrews RM, Mccaw JM, Mcvernon J. Calculation of the age of the first infection for skin sores and scabies in five remote communities in northern Australia. *Epidemiol Infect.* 2018;146(9):1194-1201
  12. Romani L, Koroivueta J, Steer AC, Kama M, Kaldor JM, Wand H, et al. Scabies and Impetigo Prevalence and Risk Factors in Fiji : A National Survey. 2015;1–11.
  13. Sara J, Haji Y, Gebretsadik A. Scabies Outbreak Investigation and Risk Factors in East Badewacho District, Southern Ethiopia : Unmatched Case-Control Study. 2018;2018.
  14. Talukder K, Talukder MQK, Farooque MG, Khairul M, Sharmin F, Jerin I, et al. Controlling scabies in madrasahs ( Islamic religious schools ) in Bangladesh. *Public Health.* 2012;127(1):83–91.
  15. Yeoh DK, Anderson A, Cleland G, Bowen AC. Are scabies and impetigo " normalized "? A cross-sectional comparative study of hospitalized children in northern Australia assessing clinical recognition and treatment of skin infections. *PLoS Negl Trop Dis.* 2017;11(7):e0005726
  16. Kinyanjui T, Middleton J, Gu S, Cassell J, Ross J. Scabies in residential care homes : Modelling, inference, and interventions for well- connected population sub-units. *Plos.* 2018;(2):1–24.
  17. Liu J, Wang H, Chang F, Liu Y, Chiu F. The effects of climate factors on scabies. A 14-year population-based study in Taiwan. *Parasite.* 2016;1–7.
  18. Calheiros L. The epidemiology of scabies in an impoverished community in rural Brazil : Presence and severity of disease are associated with poor living conditions and illiteracy. *J Am Acad Dermatol.* 2009;60(3):436-43