Relationship of Education, Knowledge and Behavior of Society and Scabies in Syamtalira Bayu Health Center Northern Aceh Regency

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ABSTRACT

Scabies is a skin disease caused by the investment and sensitization of Sarcoptes Scabiei mites variants of hominis and their products to the body. Scabies is often neglected because it is not life-threatening so the priority of treatment is low, but actually chronic and severe scabies can cause dangerous complications. WHO noted that approximately 130 million population in the world experienced scabies in 2018. While in Aceh in 2017, approximately 40.78% of pesantren adolescents suffered from scabies. This study aims to determine the relationship between education, knowledge and behavior related to the incidence of scabies in Syamtalira Bayu District, North Aceh Regency. This type of research is analytic descriptive using a cross sectional survey approach. The subjects of this study were the people of District Syamtalira Bayu. Determination of the study sample was conducted using purposive sampling based on inclusion and exclusion criteria, sample of 100 respondents was obtained at the Syamtalira Bayu Health Center. The results showed that there was a relationship between the behavior of changing clothes or prayer tools (p = 0.008), changing towels (p = 0.000), and sleeping coincide (p = 0.000) with the incidence of scabies in Syamtalira Bayu District and there was no relationship between education (p = 0.770) and knowledge (p = 0.564) in the Syamtalira Bayu District.

1. Introduction

Scabies is a contagious skin infection caused by the parasite Sarcoptes scabiei and the most common cause of itchy skin¹. Scabies is often ignored because it is not life-threatening so that the priority of treatment is low, but actually chronic and severe scabies can cause dangerous complications. Scabies often causes discomfort because it causes very itchy lesions. Patients with scabies often scratch and cause secondary infections, especially by Group A Streptococci (GAS) and Staphylococcus aureus. Complications due to secondary infestations of GAS and Staphylococcus aureus are common in children in developing countries². World Health Organization (WHO) stated that the incidence of scabies in 2014 was 130 million people in the world, while according to the International Alliance for the Control Of Scabies (IACS) the incidence of scabies started from 0.3% to 46%. The incidence of scabies in 2015 also had a high prevalence in several countries including Egypt (4.4%), Nigeria (10.5%), Mali (4%), Malawi (0.7%), and Kenya (8.3%). The highest incidence is in children and adolescents. According to data from the Ministry of Health of the Republic of Indonesia, the prevalence of scabies in Indonesia has decreased from year to year. The prevalence of scabies in 2008 was 5.60% - 12.96%, while the prevalence in 2009 was 4.9% - 12.95% and
the latest data recorded the prevalence of scabies in Indonesia in 2013 was 3.9% - 6%. Although there has been a decline in prevalence, Indonesia has not been free from scabies disease and is still one of the infectious disease problems in Indonesia. Pratama in 2017 found that 40.78% of the total santri population in Aceh had scabies. Meanwhile, in the working area of the Syamtalira Bayu Health Center, scabies has been in the 10th largest disease position in the last 1 year. It was recorded that in September 2019 out of a total of 1509 visits, there were 153 patients suffering from scabies. Causing scabies to occupy the 4th position in the 10 most cases of disease at the Syamtalira Bayu Health Center.

Factors that influence the high prevalence of scabies in developing countries are related to poverty which is associated with low levels of hygiene, difficult access to water, and residential density. The high density of occupancy and interaction or physical contact between individuals facilitates the transmission and infestation of scabies mites. Therefore, a high prevalence of scabies is generally found in environments with high population density and interpersonal contacts such as prisons, orphanages, and Islamic boarding schools. Places that have a high density have a high risk for transmission of scabies, especially dormitories and Islamic boarding schools.

In 2014 a research was conducted on the relationship between scabies and education level by Ratnasari at Pondok Pesantren X, East Jakarta, the results of the study found that the largest percentage of scabies sufferers occurred at the junior high school level of 58.1%, while at the high school level of 41.3%. Research conducted by Yunita (2015) in Padang, obtained different results with the largest percentage of scabies sufferers occurring at the high school education level of 16.12%, while at the junior high school level of 11.29%. Research on the incidence of scabies, especially the relationship between education level and knowledge level, has never been conducted in Syamtalira Bayu District, North Aceh Regency. Based on these things, there are indications of the level of knowledge of clean and healthy living behavior and the level of education related to the incidence of scabies, thus encouraging the author to conduct research on the relationship between education level and community knowledge level about scabies in Syamtalira Bayu District, North Aceh Regency.

2. Methods

This research is an analytical descriptive study using a cross sectional survey approach which was carried out in October 2019 at the Syamtalira Bayu Health Center, North Aceh Regency. The population of this research is the entire community of Syamtalira Bayu District. Where will be taken 100 respondents who have met the inclusion and exclusion criteria by using purposive sampling technique.

Sources of data in this study obtained from primary data using a questionnaire as an instrument. The questionnaire contains questions related to the respondents' knowledge, attitudes, and personal hygiene actions towards scabies. Data were collected by distributing questionnaires to respondents one by one. The observed results are the results of the respondent's level of knowledge, attitudes, and personal hygiene actions. Univariate test to describe the distribution of each variable. Bivariate test using chi square to find the effect of each variable on the incidence of scabies.
3. Results and Discussion

Table 1. Characteristics of respondents by gender, age and education

| Characteristics of Respondents | Frequency (n=100) | Percentage (%) |
|-------------------------------|------------------|----------------|
| Gender                        |                  |                |
| Man                           | 25               | 25             |
| Woman                         | 75               | 75             |
| Total                         | 100              | 100            |
| Age                           |                  |                |
| 16-25                         | 29               | 29             |
| 26-35                         | 28               | 28             |
| 36-45                         | 43               | 43             |
| Total                         | 100              | 100            |
| Education                     |                  |                |
| Primary school                | 25               | 25             |
| Junior high school            | 30               | 30             |
| Senior High School            | 28               | 28             |
| College                       | 17               | 17             |
| Total                         | 100              | 100            |

Table 1 shows the characteristics of research respondents based on gender, most of them are women as many as 75 people (75%) and at least 25 people are men (25%). Meanwhile, the characteristics based on the age of the respondents showed that the most aged between 36 - 45 years, that is 43 people (43%) and the least aged between 26-35 years, that is 28 people (28%). Characteristics of respondents based on education level, more than 30 people have junior high school education (30%) and at least 17 people have college education (17%).

Table 2. Characteristics of respondents based on level of knowledge

| Level of Knowledge | Frequency (n=100) | Percentage (%) |
|-------------------|-------------------|----------------|
| Better            | 86                | 86             |
| Less Better       | 14                | 14             |
| Total             | 100               | 100            |

Table 2 shows the characteristics of respondents based on the level of knowledge that is more good as many as 86 people (86%), while the level of knowledge is less good as many as 14 people (14%).

Knowledge about scabies in North Aceh is very easy to obtain either through direct media or not. Examples of direct media such as counseling, health promotions, education from doctors and others. While examples of indirect media such as health posters, banners, and others. According to most respondents in Syamtalira Bayu District, on average, they had received health promotions about scabies, but it did not reduce the incidence of scabies or accelerate the healing of scabies as expected. Judging from the answers of the subjects on the questionnaire results showed that subjects who suffered from scabies had good knowledge of 44 people
and those who did not also had good knowledge of scabies were 42 people (42%). This shows that respondents understand how to prevent, sources of transmission and causes of scabies well.

Table 3. Characteristics of respondents based on the diagnosis of scabies

| Diagnosis of Scabies | Frequency (n=100) | Percentage(%) |
|----------------------|------------------|---------------|
| Skabies              | 50               | 50            |
| Non skabies          | 50               | 50            |
| **Total**            | **100**          | **100**       |

Table 3 shows the characteristics of respondents based on the diagnosis of scabies, 50 people (50%), while 50 people diagnosed with non-scabies disease (50%).

Table 4. Characteristics of respondents based on the behavior of alternating prayer tools

| Alternating Prayer Tools | Frequency (n=100) | Percentage(%) |
|--------------------------|-------------------|---------------|
| Yes                      | 70                | 70            |
| No                       | 30                | 30            |
| **Total**                | **100**           | **100**       |

Table 4 shows the characteristics of respondents based on the behavior of taking turns using prayer tools, obtained as many as 70 people (70%), while those who do not use prayer tools alternately are 30 people (30%).

Table 5. Characteristics of respondents based on the behavior of changing towels

| Alternately Towels | Frequency (n=100) | Percentage (%) |
|--------------------|-------------------|----------------|
| Yes                | 53                | 53             |
| No                 | 47                | 47             |
| **Total**          | **100**           | **100**        |

Table 5 shows the characteristics of respondents based on the behavior of alternating using towels, as many as 53 people (53%), while those who do not use towels alternately as many as 47 people (47%).
Table 6. Characteristics of respondents based on sleeping behavior coincide

| Sleeping Behavior Coincide | Frequency (n=100) | Percentage (%) |
|----------------------------|------------------|----------------|
| Yes                        | 64               | 64             |
| No                         | 36               | 36             |
| **Total**                  | **100**          | **100**        |

Table 6 shows the characteristics of respondents based on the behavior of sleeping close together, obtained as many as 64 people (64%), while those who do not sleep together are 36 people (47%).

According to Lathifa (2014) scabies is a disease that is difficult to eradicate, in humans, especially in a community environment in closed dense housing, because the Sarcoptes scabiei tick that causes scabies is easily transmitted in a dense and closed environment. This is in accordance with residential conditions in Syamtalira District, Bayu, North Aceh Regency.

Table 7. The relationship between respondents education and the incidence of scabies

| Level of Education          | Diagnosis | Total | p value |
|-----------------------------|-----------|-------|---------|
|                             | Skabies   | Non Skabies |       |
|                             | n         | %     | n      | %     | n     | %     |
| Primary school              | 16        | 16    | 9      | 9     | 25    | 25    |
| Junior high school          | 11        | 11    | 19     | 19    | 30    | 30    |
| Senior High School          | 17        | 17    | 9      | 9     | 28    | 28    |
| College                     | 6         | 6     | 9      | 9     | 17    | 17    |
| **Total**                   | **50**    | **50**| **50** | **50**| **100**| **100**|

Table 7 shows the results of the Chi Square test with a significant level of 5%, the result is \( p = 0.077 \) because the \( p \)-value is \( 0.077 > 0.05 \) then \( H_0 \) is accepted, meaning that there is no relationship between the respondent’s level of knowledge and the incidence of scabies in Syamtalira Bayu District, North Aceh Regency.

The level of education does not affect the incidence of scabies because at the education level it is not taught directly about clean and healthy living programs and prevention of scabies. Prevention of scabies requires awareness of the individual to want to find out about the prevention of scabies. Judging from the answers of the subjects in the questionnaire results show that the most respondents who suffer from scabies have a high school education of 17 people (17%), while the most subjects who do not suffer from scabies at the junior high school education level are 19 people (19%). This shows that subjects with higher education does not affect the understanding of ways of prevention, sources
of transmission and causes of scabies better than lower education.

Table 8. The relationship between respondents knowledge and the incidence of scabies

| Level of Knowledge | Diagnosis                  | Total | p value |
|-------------------|---------------------------|-------|---------|
|                   | Skabies       | Non Skabies |       |
|                   | n  | %     | n  | %     | n  | %     |
| Better            | 44 | 44   | 42 | 42   | 86 | 86   | 0.564 |
| Less Better       | 6  | 6    | 8  | 8    | 14 | 13   |
| Total             | 50 | 50   | 50 | 50   | 100| 100  |

Table 8 shows the results of the Chi Square test with a significant level of 5% obtained $p = 0.564$ because the $p$-value $0.564 > 0.05$ then Ho is accepted, meaning that there is no relationship between the respondent’s level of knowledge and the incidence of scabies in Syamtalira Bayu District, North Aceh Regency.

Table 9. The relationship between the behavior of changing respondents prayer tools and the incidence of scabies

| Alternating Prayer Tools | Diagnosis                  | Total | p value |
|--------------------------|---------------------------|-------|---------|
|                         | Skabies       | Non Skabies |       |
|                         | n  | %     | n  | %     | n  | %     |
| Yes                     | 41 | 41   | 29 | 29   | 70 | 70   | 0.009 |
| No                      | 9  | 9    | 21 | 21   | 30 | 30   |
| Total                   | 50 | 50   | 50 | 50   | 100| 100  |

Table 9 shows the results of the Chi Square test with a significant level of 5%, the result is $p = 0.009$ because the $p$-value is $0.009 < 0.05$ then Ho is rejected, meaning that there is a relationship between the behavior of changing respondents’ prayer tools with the incidence of scabies in Syamtalira Bayu District, District North Aceh.

The results showed that the subjects changed clothes or praying tools who suffered from scabies as many as 41 people (41%) and those who did not scabies, namely 29 people (29%). The results of this study are in accordance with the results of Koresa’s research (7) which showed 47 people (94%) had lent clothes to friends, because lending clothes to friends meant that it facilitated the transmission of scabies germs. Transmission through indirect contact such as through bedding, clothing, or towels plays an important role (8). In addition, the culture of congregational prayer is still high, causing the replacement of prayer tools to be disproportionate to the number of uses and the number of worshipers.
Table 10. The relationship between the behavior of changing respondents’ towels with the incidence of scabies

| Alternately Towels | Diagnosis | Total | p value |
|--------------------|-----------|-------|---------|
|                    | Skabies   | Non Skabies |       |
| Yes                | n         | %       | n       | %       | n       | %       |
|                    | 42        | 42      | 11      | 11      | 53      | 53      | 0.000   |
| No                 | 8         | 8       | 39      | 39      | 47      | 47      |
| Total              | 50        | 50      | 50      | 50      | 100     | 100     |

Table 10 shows the results of the Chi Square test with a significant level of 5%, the result is $p = 0.000$, because the p-value is 0.000 <0.05 then Ho is rejected, meaning that there is a relationship between the behavior of changing respondents’ towels with the incidence of scabies in Syamtalira Bayu District, North Aceh Regency.

Based on the previous description, it is known that there are 42 people (42%), who don’t have scabies who exchange towels with friends and 50 people (11%). This shows that most of the community students in Syamtalira Bayu District exchange towels with other people. The results of this study are in accordance with Yunita’s research (2015) that the behavior that supports the occurrence of scabies is often changing towels with family/friends. According to Zarkasi (2019) indirect transmission of scabies can be caused through bedding, clothing or towels.

Table 11. The relationship between the respondent’s sleeping behavior coincides with the incidence of scabies.

| Sleeping Behaviour | Diagnosis | Total | p value |
|--------------------|-----------|-------|---------|
| Coincide           |           |       |         |
|                    | Skabies   | Non Skabies |       |
| Yes                | n         | %       | n       | %       | n       | %       |
|                    | 46        | 46      | 18      | 18      | 64      | 64      | 0.000   |
| No                 | 4         | 4       | 32      | 32      | 36      | 36      |
| Total              | 50        | 50      | 50      | 50      | 100     | 100     |

Table 11 shows the results of the Chi Square test with a significant level of 5%, the result is $p = 0.000$ because the p-value is 0.000 <0.05 then Ho is rejected, meaning that there is a relationship between the behavior of sleeping with the respondent and the incidence of scabies in Syamtalira Bayu District, North Aceh Regency.

In this study, 47 people (47%) slept together and suffered from scabies and 18 people who did not have scabies (18%). This result is in accordance with Yunita’s research (2015) which concluded that the behavior that supports the occurrence of scabies is through sleeping together and huddled together in one bed. In addition, the results of Koresa’s research also
showed that the percentage of respondents affected by scabies was 62.9%; 61.4% have the habit of sleeping with friends who suffer from scabies, and 60.0% have the habit of using blankets with friends who suffer from scabies.

Based on the three research variables, namely education, knowledge and behavior, it shows that behavioral variables are the biggest risk factors, where sleeping together and being contiguous together in one bed is a behavior that supports the occurrence of scabies.

4. Conclusion

The gender of the most respondents at the Syamtalira Bayu Health Center in North Aceh in October 2019 was female, with the highest age group being 36-45 years. The education level of the most respondents at the Syamtalira Bayu Health Center, North Aceh in October 2019 was Junior High School. The level of knowledge of the most respondents at the Syamtalira Bayu Health Center Aceh Utara in October 2019 was good. The community of Syamtalira Bayu has, on average, been exposed to health promotion about scabies from the local Puskesmas program, either directly or indirectly. The behavior of the most respondents at the Syamtalira Bayu Health Center, North Aceh in October 2019 was changing prayer tools. This is because Aceh which is the Veranda of Mecca has a pesantren called Dayah and is spread in almost all villages. In addition, the culture of congregational prayer is still high, causing the replacement of prayer tools not to be proportional to the number of worshipers. There is no relationship between the respondent’s education level and the incidence of scabies in Syamtalira Bayu District, North Aceh Regency. Based on the research that has been done, it is found that the high school education level has more incidence of scabies than junior high and elementary school. There is no relationship between the respondent’s level of knowledge and the incidence of scabies in Syamtalira Bayu District, North Aceh Regency. Based on the research that has been done, it is found that a good level of scabies knowledge is more likely to experience scabies incidence, as well as poor scabies knowledge. There is a relationship between respondent behavior and the incidence of scabies in Syamtalira Bayu District, North Aceh Regency. Based on the research that has been done, it was found that respondents with good scabies transmission prevention behavior experienced fewer scabies incidents than those with poor scabies prevention behavior.

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