

Conference Paper

SCABIOSIS IN RABBIT

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Abstract

Scabiosis caused by *Sarcoptes scabiei* and still hard to controled. So many factors that influence include geographic factors that play a role in the incidence of parasitic diseases as tropical Indonesiastrongly support the life cycle *S.scabiei* var.*cuniculi*. Control of scabies has been by way of drug delivery such as injection ivermectine scabies, permethrine cream, or the use of malathion liquid, the control method requires high costs due to scabies infections can occur repeatedly if the surrounding environment is not considered. Scabies or mange is a contagious skin disease due to mites (mites) *Sarcoptes scabiei*. All rabbit in Animal Hospital will be identified symptoms of scabies like their crust a whitish, thickening of the skin, the hair shaven in the nose, muzzle, around the eyes, ears or if the infection is severe can be found in the legs or back. Further assessment (scoring) between positive score 1-4 based on the severity of the infection.

Research for mapping scabies in rabbits in Surabaya as a first step in eradicating scabies, then do the following steps: 1) survey data collection on the location and number of rabbit farms in East Java; 2) detection of rabbit suspected of having scabies, based on clinical symptoms and the severity of symptoms of scabies; 3) isolation and identification of mites *S.scabiei* var *cuniculi* of rabbit showing clinical symptoms of scabies by microscopic examination; 4) performs the scoring cage rabbit breeding conditions; 5) Statistical analysis of the incidence of scabies in rabbits to do the mapping.

Based on this background s the problem of disease scabies in rabbits in order to avoid transmission is widespread and pressing huge economic losses, it is necessary to mapping the incidence of scabies in rabbits as an initial effort in scabies.

Keywords: Scabies, *Sarcoptes scabei*, Rabbit, Ivermectin.

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1. Introduction

Programs to control scabiosis by *Sarcoptes scabiei* in rabbits until now still difficult because of many factors that influence include geographic factors that play a role in the incidence of parasitic diseases as tropical Indonesia strongly support the life

cycle *S.scabiei* var.*cuniculi*. In addition rabbits as a source of animal protein that is currently rabbit farm growth is increasing, and there are about 16 rabbit farms in East Java. As a first step in tackling the incidence of scabies will require mapping of scabies in some rabbit farms in East Java to determine the level of occurrence and the factors that support the spread of scabies in rabbits. The incidence of scabies disease affected their three important factors, namely their landlady, environmental and disease agents, which integrate with each other these three factors in stimulating an increase in the incidence of the disease. The incidence rate of the disease will determine ways to overcome them in order to be effective and efficient in the next step for the development of further disease prevention research.

Control of scabies has been by way of drug delivery such as injection ivermectine scabies, permethrine cream, or the use of malathion liquid, the control method requires high costs due to scabies infections can occur repeatedly if the surrounding environment is not considered. Scabies or mange is a contagious skin disease due to mites (mites) *Sarcoptes scabiei*. The mites in the skin to penetrate the stratum corneum and form a tunnel, causing severe irritation and itching with scratching resulting in swelling of the exudate freeze and form a crust on the surface of the skin. *S. scabiei* mites can affect domestic and wild mammals and are zoonotic. Mites *S.scabiei* reported to be an important problem in public health, and an estimated 300 million people globally are infected with scabies every year (Taplin & Meinking, 1990; Lastuti, 2009). Several reported incidents of scabies in Indonesia is still high enough to reach 100% in adult goat with a mortality rate of 67-100% (Lastuti, 2009). Mites *Sarcoptes* has only one species, namely *Sarcoptes scabiei* yet have many varieties according to the origin of the landlord, such as varieties *caprae* (goat), varieties *ovis* (sheep), varieties *canis* (dogs), variety *hominis* (human), varieties *suis* (pig), and varieties *cuniculi* in rabbits

Research for mapping the incidence of scabies in rabbits in Animal hospital as a first step in eradicating scabies, then do the following steps: 1) survey data collection on the location and number of rabbit farms in East Java; 2) detection of rabbit suspected of having scabies, based on clinical symptoms and the severity of symptoms of scabies; 3) isolation and identification of mites *S.scabiei* var *cuniculi* of rabbit showing clinical symptoms of scabies by microscopic examination; 4) performs the scoring cage rabbit breeding conditions; 5) Statistical analysis of the incidence of scabies in rabbits to do the mapping.

Based on this background the problem of disease scabies in rabbits in order to avoid transmission is widespread and pressing huge economic losses, it is necessary to mapping the incidence of scabies in rabbits as an initial effort in pengendalian scabies

2. FORMULATION OF THE PROBLEM AND OBJECTIVES OF RESEARCH

2.1. PROBLEM

Based on the background mentioned above, it is necessary to isolate and identify the mites *S.scabiei* var.*cuniculi* role in infecting rabbits, then formulated some problems as follows:

1. Do rabbits reared on farms in East Java rabbits infected with scabies is based on clinical symptoms.
2. How does the incidence of scabies that attacks the rabbit from various farms in East Java so that it can be mapped.

2.2. Research purposes

2.2.1. General purpose

This study aimed to determine the incidence mapping scabies caused by *S.scabiei* var.*cuniculi* that play a role in the pathogenesis of the disease scabies in an effort to control scabies in rabbits.

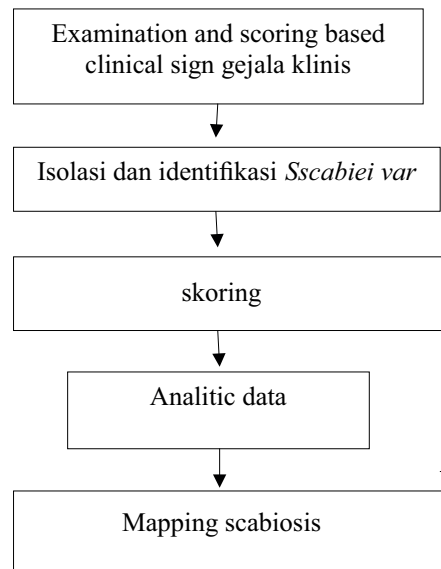
Special purpose

1. Identify *S.scabiei* var.*cuniculi* mites play a role in the pathogenesis of the disease scabies.
2. Determine the mapping based on the incidence of scabies rabbit in some farm rabbits.

To determine the mapping done some research stages, namely: 1) survey data collection on the location and number of rabbit farm in East Surabaya; 2) detection of rabbit suspected of having scabies, based on clinical symptoms and the severity of symptoms of scabies; 3) isolation and identification of mites *S.scabiei* var *cuniculi* of rabbit showing clinical symptoms of scabies by microscopic examination; 4) performs the scoring cage rabbit breeding conditions; 5) Statistical analysis of the incidence of scabies in rabbits to do the mapping.

3. RESEARCH METHODS

3.1. Operational Framework Research



3.2. Survey Rabbit Ranch location in Surabaya

In Surabaya, there are about four breeding rabbits to be carried out the survey, of these farms will be identified how many rabbits are estimated to visible symptoms of scabies like their crust a whitish, thickening of the skin, the hair shaven in the nose, muzzle, around the eyes, ears or if the infection is severe can be found in the legs or back. Further assessment (scoring) between positive score 1-4 based on the severity of the infection. Besides data collection, among others: the age of the rabbit, rabbit species, the way of maintenance, rabbit origin, and location of the farm. Rabbits were showing clinical symptoms mentioned above were brought to the laboratory / Department of Parasitology, Faculty of Veterinary Medicine Airlangga to the examination of the crust / skin with scraping.

4. RESEARCH RESULT

4.1. The preparation phase of research

Preparation begins with the provision of research rabbits as experimental animals. Experimental units used in this study was 20 twenty rabbits (*Ornihtolagus sp*) male and Batina, the inclusion criteria were: there is scale or crusts on the surface of the skin, weight 2000-3000 grams.

TABLE 1

No	Owner rabbitry	Old	Species	Cage	Location rabbit ranch
1	Mr. Faizal	4 bulan	Rex	battrey	Rungkut
2	Ms. Novi	4 bulan	Rex	battrey	Tanah Merah
3	Mr. Usman	4 bulan	Rex	battrey	Mastrip
4	Mr. Pardi	4 bulan	Rex	battrey	Karah

Preparation of the rabbit comes scraping so we rest 1-2 days for conditioning the circumstances so as not to stress. Kelinci we get from some farms in the region of Surabaya, at the farm belonging to Mr. Faisal in Rungkut, Novi mother in red soil, the father of Usman in mastrip and father Pardi.

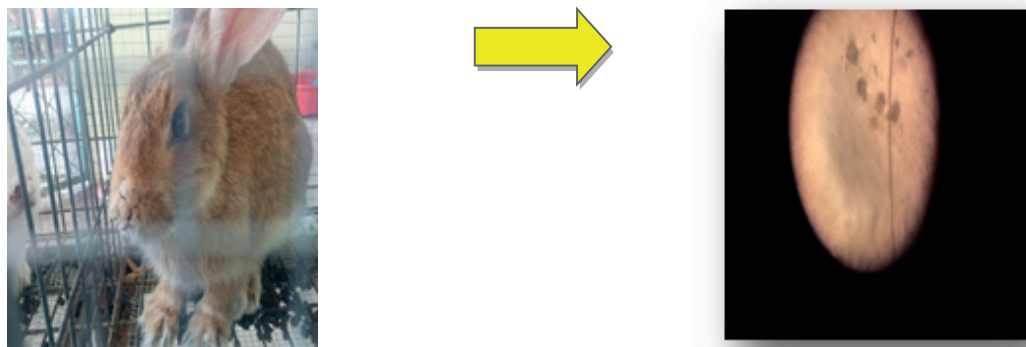


Figure 1: rabbit with positif scabiosis.

This process takes time for 1 week and has been confirmed by scraping ie identifying the *Sarcoptes scabiei* in rabbit models.

4.2. Observations Samples

Observation and examination of the samples in this study was conducted twice, first inspection conducted at weeks 1 and the second week 2 after the first scraping.

4.3. Research result

Of the samples that we took in some areas in Surabaya can be seen in Table 5.1 below.

For scraping positive result of 20 (twenty) rabbits in each location as shown in table 5.2

Scraping we do as shown below

TABLE 2

No	Owner rabbtry	Positif Scabiosis	Negatif Scabiosis	Scoring
1	Mr. Faizal	3	2	4
2	Ms. Novi	4	1	4
3	Mr. Usman	2	3	3
4	Mr. Pardi	3	2	4



Figure 2: Scraping.

5. DISCUSSION

In Surabaya, there are about four breeding rabbits we did a survey, of these farms we identified 20 rabbits in which each - each breeder we take a sample of five rabbits which we have identified and symptom scoring skabiesnya with an average sckoring of this research is a score of 3 and 4 characterized by the whitish colored crusting, thickening of the skin, the hair shaven in the nose, muzzle, around the eyes, ears or if a severe infection can be found in the legs or back. Crusting skin that has done scraping, then scraping result object placed in glass slide and then KOH 10%, and then identified under a microscope with a magnification of 40 times.

Results from samples which we derive from our analysis of this research using descriptive statistical analysis of cross tabs correspondence as in table 6.1

Based on the above statistics show that the samples we obtained in this study was not significantly different with $p > 0.5$ means that means that at some point in the Surabaya region scabiosis disease incidence rate in rabbits chances are equal. No significant difference could be caused by scabies is contagious and itchy skin disease caused by mites (mites) *Sarcoptes scabiei* can infest all domestic and wild mammals. *Sarcoptes scabiei* is a small parasite, a round shape with a line beyond rude. The results

TABLE 3: Chi-Square Tests.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.667 ^a	3	.644
Likelihood Ratio	1.726	3	.631
Linear-by-Linear Association	.158	1	.691
N of Valid Cases	20		

also showed that the average maintenance way farmers are using battery enclosure so as to enable transmission of a widespread and rapidly between one another rabbit. The treatment is still done potluck also provide equal opportunities scabiosis transmission on a single farm. Environmental sanitation and litter processing also determine the level of disease transmission scabiosis. Scabiosis disease mapping in research as in the chart below 6.1.

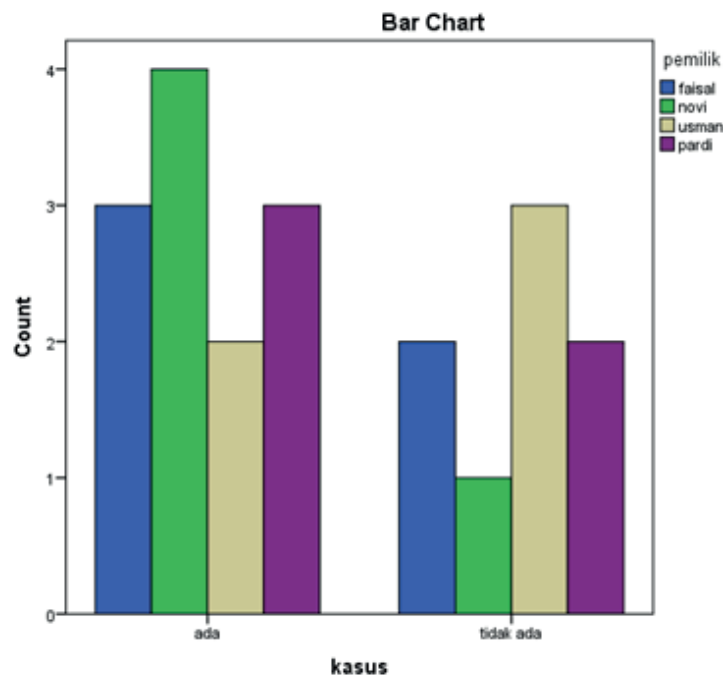


Figure 3

5.1. Scabiosis in Surabaya

Disease Mapping Scabiosis In Rabbits in Surabaya region is giving importance that this scabiosis illness can happen anywhere and anytime, so that the necessary governance of care and treatment immediately when there is positively affected by this scabiosis. Scabies treatment given to some active components are: 1) Ivermectin is used

extensively both to animals and humans. 2) Benzyl benzoate 25%. 3). Crothamiton 10%. 4) Gammabenzene hexachloride 1%. 5). Preparat Sulfur. 6) permethrin, has low toxicity and is the drug of choice in some countries (Walton et al, 2004; Ljunggren, 2005). Although treatment with scabicide is effective, but there are few reports of resistance to these drugs. (Walton, 2000; Currie et al, 2004).

6. CONCLUSIONS AND RECOMMENDATIONS

6.1. Conclusion

Mapping Scabiosis disease in rabbits in the Surabaya region shows some areas that represent scabiosis disease events was not significantly different. Each region has the same incidence rate if one farm, there is a positive rabbit scabiosis the disease if not done from administration of governance against this disease will cause the transmission to the other rabbit breeders and detrimental to itself.

6.2. Suggestion

Examination phases need to be prepared for subsequent research on the test kit scabiosis governance procedures.

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