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Community Knowledge of Leptospirosis in Sukaramai, Medan, Indonesia

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Abstract

Background: Leptospirosis is a zoonotic disease caused by Leptospira interogans. Leptospirosis in Indonesia has a fairly high incidence of third-order mortality in the world. A person's knowledge of a disease will affect one's assessment of the disease. Poor knowledge of a disease is likely to be able to reduce the incidence of the disease.

Objective: To determine the level of community knowledge about leptospirosis in Sukaramai , Medan, Indonesia.

Method: This research type is descriptive with the cross-sectional design. Samples of research with simple random sampling technique with the number of 81 people located in Sukaramai, Medan. The instrument of this study used a questionnaire consisting of 20 statements.

Results: Based on the results of the study found that the knowledge of both 9 people (11.1%), knowledge of 15 people (18.5%) and poor knowledge 57 people (70.4%) **Conclusion:** The level of community knowledge of the Sukaramai Medan about Leptospirosis are mostly in low level.

Keywords: knowledge, leptospirosis, flood, rats

Introduction

Leptospirosis is a zoonotic disease caused by Leptospira interogans.[1]

Leptospirosis is widely distributed throughout the world, especially countries with tropical and subtropical climates that have high rainfall. There is no definite information regarding the incidence of leptospirosis in the world. but the estimated incidence of leptospirosis in areas that have high risk factors for exposure to leptospirosis has a leptospirosis incidence rate of more than 100 per 100,000 per year.

In tropical countries with high humidity the incidence of leptospirosis ranges from 10-100 events per 100,000 population per year, whereas in sub-tropical regions the incidence ranges from 0.1-1 per 100,000 per year.

Mortality due to leptospirosis in some parts of the world is reported to range from <5-30%. This figure is not very reliable considering that there are still many areas in the world the incidence of leptospirosis is not well documented and also many cases of leptospirosis are not diagnosed correctly.

In Indonesia the transmission of leptospirosis occurs most often through rat in flood conditions.The floods cause environmental changes such as the number of puddles, muddy and the amount of landfill causes the Leptospira bacteria to multiply easily.

High rainfall will increase exposure to Leptospira bacteria in humans through contaminated water and soil.[3]

Knowledge of a disease will affect a person's assessment of the disease. Knowledge is one important factor for the formation of one's actions. People who have good knowledge about a disease will most likely be able to prevent the occurrence of the disease.[4] Leptospirosis is a disease that is still not widely known by the public, because the clinical symptoms of this disease are almost the same as the clinical symptoms of the other diseases such as dengue fever, typhoid fever and hepatitis, making it difficult for the people to recognize it.

Sukaramai is a village located in Medan, North Sumatra, Indonesia. Around it, there is a market where food trade which is quite crowded with the visitors. The market has been around for a long time, but until now the management of hygiene is still not good.

There is a pile of food waste and piles of garbage that can clog the drain so that every rain will cause puddles and floods. The accumulated rubbish becomes a breeding place for rats, so that people living around the market are at high risk for leptospirosis infection. This led researchers to conduct research on the level of community knowledge about leptospirosis in Sukaramai.

Material and Methods

This is a descriptive survey research with cross sectional design. The population of this study were people who resided in Sukaramai and were willing to be the subject of the research. Determination of the number of samples in this study was carried out by means of statistical calculations by using the Slovin formula and with simple random sampling technique. The instrument used in this study to collect data is a questionnaire compiled by researchers based on literature review and research conceptual framework.

The data that has been obtained is analyzed statistically and interpreted through Univariate analysis to describe the characteristics of each research variable.

Result

The Characteristic data of subject are grouped based on age, gender, education, and occupation, as shown in **Table 1**.

Table 1 Characteristic of subject

Characteristics	Total	
	Frequency	%
Age		
20-30 years old	27	33.3
	43	53.1
30-40 years old		
> 40 years old	11	13.6
Gender		
Man	37	45.7
Woman	44	53.4
Education		
Primary school	30	37
Junior high school	32	39.5
Senior High School	14	17.3
Bachelor	5	6.2
Occupation		
Unemployment	19	23.5
Government employees	15	18.5
Merchant	47	58

Through interviews and filling out questionnaires can be seen from the results of the study that 9 people (11.1%) had good knowledge, 15 people (18.5%) had moderate knowledge and 57 people (70.4%) had bad knowledge about leptospirosis, as shown in **Figure 1**.

Discussion

In this study showed 70.4% of subjects had bad level of knowledge about leptospirosis.

In Indonesia, leptospirosis, despite causing serious health problems but still not getting enough attention, is also a factor in the low level of subject knowledge about leptospirosis because there is very little information about leptospirosis.[5]

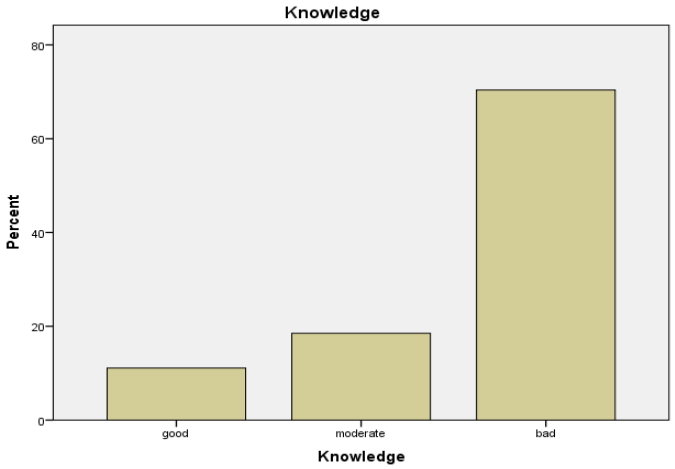

Figure 1: Level knowledge of Leptospirosis

Community knowledge about leptospirosis can be influenced by many factors, including education, information/mass media, occupation, environment, experience, age, social, cultural and economic.[6] In adulthood, the level of concern for the environment related to its survival is high, so it affects its concern for disease prevention.

Leptospirosis can attack humans throughout human life because all ages have the same exposure potential and exposure experience.

However, the incidence of leptospirosis is more common in individuals aged between 20-40 years. At the age of 20-40 years has the potential to have greater exposure because they start working and have a lot of activities outside the home.[7]

Gender factors affect the level of knowledge of disease prevention, psychological factors related to emotions and concern for cleanliness in women are also higher than men. Women can be infected with leptospirosis when cleaning the house, holding pets, swimming, and outdoor picnics.[8]

The education is closely related to knowledge about health and health practices.

In addition, education can affect a person's learning process, the higher the education of a person, the easier it will be to receive information. The more information obtained, the more knowledge gained includes information about health. One risk factor for leptospirosis is occupation. This type of occupation can affect the level of exposure of workers with infected animals. Workers' groups related to direct transmission where workers who have facilities in contact with body fluids or urine from leptospirosis-infected animals.[9] The farmers, military and water sports athletes are at risk of indirect leptospirosis infection that is from the environment or contaminated water and soil.

Conclusion

The level of community knowledge of the Sukaramai Medan about Leptospirosis are mostly in low level.

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