SUMMARY

The Risk Factors of Cattle Farmers' Leptospirosis in Plateu of Ngrayun, Ponorogo

Leptospirosis is a zoonosis that is widespread throughout the world, with associated risk factors among the reservoir such as rodents, livestock, pets, environment, and climate. The incidence of leptospirosis in Ponorogo District had appeared since 2010 and the outbreak happened in 2011. In 2013, Most number of leptospirosis distribution was reported in Ngrayun which has an average altitude of 700 meters above sea level. Ngrayun is a plateau area which is supposed to have a small risk of the leptospirosis cases because it usually occurs in the lowlands. As a matter of fact a phenomenon occured, that most number the cases happened in Ngrayun. Based on the preliminary studies, the high incidence of leptospirosis in Ngrayun might be caused by the cattle which were infected with *leptospira* as the reservoir factors. Cattle population in Ngrayun was so high that the possibility of leptospirosis transmission from cattle to humans increased. Cattle are animals that have a higher prevalence of leptospirosis than any other livestock.

Cattle farming was an occupational hazard for leptospirosis. The cases of leptospirosis in cattle were expected to modify the effect of other risk factors on the odds of leptospirosis in the farmers. The aim of this study was to analyze risk factors related to leptospirosis incidence in Ngrayun in 2013. The risk factors analyzed were, physical enviroment, biological environment, farmer's characteristics, cattle's characteristics, conditions of the cowshed and farmer's behaviour. This research was an explanatory research with observational method using case control design. The subjects were 10 cases and 30 controls recruted with inclusion criteria. The case subjects were cattle farmers diagnosed as having leptospirosis by the hospital. The dependent variable was the leptospirosis in the cattle farmer. The independent variable was physical enviroment, biological environment, farmer's characteristics, cattle's characteristics, conditions of the cowshed and farmer's behaviour. Diagnosis of cattle's leptospirosis was based on blood examination by IgG ELISA. The data were analyzed in univariate, bivariate and multivariate tests using logistic regression. All analyses used a p-value of 0,05.

The results in bivariate showed physical environment (rainfall and vegetation), farmer's characteristics (age, sex, education, and knowledge), cattle's Characteristics (sex, health history), conditions of the cowshed, and frequency of contact with cattle in a day were not significantly related to the incidence of leptospirosis in Plateau of Ngrayun, Ponorogo. However, the farmer's behavior for barefoot behaviour with p value=0,002 (OR=13,14; CI 95%=2,25-76,81) and hand-cleaning behaviour with p value=0,025 (OR=8,00; CI 95%=1,43-44,92) were significantly related to it. Besides, leptospirosis in cattle had a significant relation test well (p value=0,001; OR=21,00; CI 95%=3,46-127,47). Multivariate

test showed potential risk factors leptospirosis cases against the cattle farmers in Plateau Ngrayun, Ponorogo were the cattle's leptospirosis (p value=0,016; OR= 24,15; CI 95%=1,83-319,50) and behaviour using footwear outdoors (p value=0,016; OR= 33,90; CI 95%=1,94-591,40). It stated that the cattle farmers who had positive cattle's leptospirosis 24,15 higher risk that the cattle farmers who had negative cattle's leptospirosis. Furthermore, the cattle farmers who had behaviour barefoot 33,90 higher risk that the cattle farmers who had behaviour using footwear outdoors. The conclusion was cattle's leptospirosis and behaviour using footwear against cattle farmers letospirosis. It is suggested that cattle farmers to keep healthy their livestock with vaccine of leptospirosis every 6 month and apply using footwear outdoors especially when they are in the chowshed. Thereby, cattle farmers could prevent themselves from leptospirosis transmission through their cattle.