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EPIDEMIOLOGICAL MODEL AND SCORING SYSTEM FOR PREDICTING RABIES AFTER DOG'S BITE IN THE TIME OF RABIES OUTBREAK: A STUDY FROM LARAT RABIES OUTBREAK

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Background:

Rabies outbreak in specific area prosecute post-exposure vaccination to reduce the risk of having rabies in patients. In most outbreak, the number of rabies vaccine not much enough to cover total demand which is all of dog's bite patients. Hence, we need objective method to prioritize patients who get vaccination first. The aim of this study is to formulate epidemiological model and scoring system for predicting rabies after dog's bite in the time of rabies outbreak.

Methods:

A cross-sectional study was conducted in Larat, North Tanimbar, West Southeast Moluccas District in the time of rabies outbreak in June-August 2010. We re-analyzed data from outbreak investigation report to get epidemiological model and scoring system. Rabies was diagnosed by clinical features, medical record in Larat Public Health Center, outbreak investigation, and histopathologic figure of dog's brain. We used total sampling method to all cases of dog's bite and rabies.

Results:

We analyzed 355 dog's bite patients, 20 of them were diagnosed rabies. Predictors of rabies in dog's bite patients are time-period from dog's bite till now less than two months (OR 4,809; 95% CI 1,527-15,142), location of the bite wound on head, face, neck, chest, and back (OR 3,579; 95% CI 1,123-11,411), dog's characteristics show predominantly rabies (OR 7,842; 95% CI 2,554-24,084), and dog died solely (by themselves) or dog was killed but there is an information that before biting patient, they were bite by other dog which died solely (by themselves) (OR 7,745; 95% CI 2,555-23,478).

Conclusion:

Based on the study, epidemiological model and scoring system for predicting rabies after dog's bite in the time of rabies outbreak included four variabels; time-period from dog's bite, location of bite wound, dog's characteristics, and the way the dog died.

Keywords:

Epidemiological model, scoring system, rabies, prediction, dogs bite, outbreak, vaccination