

Original Article

Investigation of Dengue Vector Mosquito Density in Tainan, 2010-2012

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Abstract

In this paper, we analyzed the frequency and seasonal distribution of dengue vector mosquito, *Aedes aegypti*, using the data from 2010-2012 dengue vector mosquito density survey in Tainan City. We expect to provide further understanding of mosquito ecology and reference information on the control of the breeding source more clearly. Information was retrieved from database of Disease Prevention Information Collection Platform in the Centers for Disease Control; the Tainan mosquito information was analyzed. Tainan City has 37 districts, 752 neighborhoods; and all neighborhoods were surveyed in the three years. The *Aedes aegypti* was found in 21 (57%) neighborhoods, while the *Aedes albopictus* was found in 29 (78%) neighborhoods. Moreover, *Aedes aegypti* was found in 8 districts (22%), and *Aedes albopictus* was found in 7 districts (19%) every year. Among 8 districts which *Aedes aegypti* was found, Northern, Western, Eastern, Southern and Anping District have higher *Aedes aegypti* rates (above 90%). In the view of month, *Aedes aegypti* rate is higher in two periods, the May-June and October-November. The *Aedes aegypti* rate in North district is high (above 80%) every month. The proportion of *Aedes aegypti* and dengue incidence was found with moderate correlation ($r = 0.54$). The results of high risk regions and periods provide a reference for application of prevention and control resources, and hoping to make prevention and control measures more efficiently.

Keywords: Dengue fever, *Aedes aegypti*, dengue vector mosquito density survey, Mosquito Index

Recurrent Melioidosis in Taiwan, 2004-2012

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Abstract

Melioidosis is a zoonosis caused by *Burkholderia pseudomallei* and endemic in Southeast Asia and Northern Australia. Taiwan Centers for Disease Control started the surveillance for melioidosis since 2000, and 363 cases were identified from 2004 to 2013. Despite the standard antimicrobial treatment, recurrent infection occurs. It is the most important complication in survivors, with more than 6% of patients affected who survived the primary episode. Recurrence can be classified into relapse and reinfection by comparing the bacterial genotype of strain pairs isolated during primary and recurrent episodes. In this study, we determined all 20 recurrent cases from 2004 to 2012 in Taiwan as relapse, but not reinfection, by pulsed-field gel electrophoresis. Through analyzing the patient's background and clinical parameters in relapse cases, alcoholism came out as a risk factor for relapse. Furthermore, according to published studies, the protocol of antimicrobial treatment is an important determinant for relapse. In summary, in order to reduce the relapse rate of melioidosis, standard courses of antibiotic treatment are critical, and the instructions should be reinforced to alcoholic melioidosis patients.

Keywords: melioidosis, recurrence, pulsed-field gel electrophoresis

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