

correlated with the reduced expression of target viral genes and respective viral proteins by quantitative RT-PCR and Western blot analyses, respectively. Therefore, retroviral vecotr-mediated delivery of siRNA for gene silencing can be used to study the specific functions of viral genes associated with viral replication and also may argue for studies focusing on testing siRNA sequences targeting other viral genes in order to achieve an improved inhibitory effect on WNV infection and potential applications of this therapeutic strategy [supported in part by grants from the National Institutes of Health (S11NS043499 and G12RR003061) and the Hawaii Community Foundation].

OT4-03

Potency of Pandanus Amaryllifolius as Natural Larvacide for Aedes Albopictus

Yunita Yunita, Lassie Fitria, Kartika Anggun D.S., Dewi Susanna, Laila Fitria

University of Indonesia, Indonesia

More than two fifth of people in the world, around 2.5 billion, lives in the dengue fever's endemic area. Its cases in Indonesia always increase every year. There are two species of dengue vector in Indonesia which are *Aedes aegypti* and *Aedes albopictus*. Vector control by using larvacide is one of ways to solve dengue problem. *Pandanus amaryllifolius* was known that could be a larvacide because it contains of alkaloid, saponin, tanin, flavonoid, etc. Unfortunately, the study about its effectiveness is still limited and was tried only to *Aedes aegypti*. Due to this reasons, I conducted this research to explore the effectiveness of *Pandanus amaryllifolius* as *Aedes albopictus*' larvacide, toxicity dose, and the amount of *Pandanus amaryllifolius* leaves per liter water that can be used as an *Aedes albopictus*'s larvacide. It used an experimental research method based on laboratory. Non-extract of *pandanus* was treated into instars I/II of *Aedes albopictus* and it was observed on 24, 48, 72, and 96 hours after a treatment. The result based on the experiment showed that *Pandanus amaryllifolius* had effectiveness as natural larvacide for *Aedes albopictus*. LC50 was gotten in concentration of 14,542 ppb. For used it as *Aedes albopictus*' larvacide, 31 leaves of *Pandanus amaryllifolius* per liter of water were needed. It means that natural resources could be developed as natural larvacide which may be safer than the sintetic one.

OT4-04

Dominant Factors Influenced Malaria in Village Area

Dewi Susanna

University of Indonesia, Indonesia

Big cattle such as cow, horse and buffalo have been known as cattle barrier for malaria, while others have not investigated yet. The objective of this research was to know the dominant factors of cattle which influenced

malaria in village area. The secondary data from 'Riset Kesehatan Dasar 2007' had been used in this research with total population was 618.593 who lived in village area analyzed using Chi square and Logistic regression tests. The cattle as the independent variables divided into four catagories, they were poultry (chicken, bird, and duck), big cattle (cow, horse and buffalo), medium cattle (pig, sheep, and, goat), and small cattle (cat, dog, and rabbit). The most dominant factor for protection of malaria was medium cattle (pig, sheep, and, goat) as protective with Odds ratio 0,52 (0,50-0,54). The other cattles had Odds Ratio less than 2, althouh they had p value < 0,05. The medium cattle was the dominant factor influenced malaria in village area, while others did not have effect.

OT4-05

Attribution Theory and Vector-Borne Diseases: The Case of Dengue Epidemics in Taiwan

Fang-Ying Li, Chuin-Shee Shang, Zheng-rong Tiger Li, Chih-Yin Lew-Ting

National Taiwan University, Taiwan

Background: Understanding what causes are assigned to negative events by the victims is helpful to predict their subsequent reactions to the event, and provides implications for prevention and control in the future. This study examines layperson's attribution of dengue attack at three levels: (1) individuals infected with dengue, (2) districts remaining high in prevalence, and (3) the Tainan City confronted with an outbreak in 2007. Methods: We interviewed the members of households selected by GIS (geographic information system) assisted random sampling in three high prevalence districts in Tainan City in 2008. Results: A total of 92 valid interviews were accomplished. Major causes assigned by the participants are: (1) individuals: unfavorable environmental hygiene, insufficient self-protective strategies, low immunity, and poor personal constitution, (2) districts: adverse environmental sanitation, and uncontrolled breeding sites, and (3) city: environmental deterioration, climate change, inappropriate insecticide spraying, and virus mutation. Participants who were female, younger, and highly educated were more likely to attribute any level of dengue attacks to climate and environmental factors. The highly educated also uniquely assigned causes of City level outbreak to virus mutation, the district epidemic to local residents' behavior, and the individuals' affliction to victims' behavior, and their poor physical constitution and immunity, but not personal fate.

Conclusions: Interpretations regarding different levels of dengue attack varied, and the types of attribution were also associated strongly with individuals' socio-demographic characteristics. The local government should take residents' attribution patterns into account to implement successful dengue control programs.