

Preliminary Study on Outcomes of Dengue Fever Prevention and Control Strategies, Tainan City, 2017

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Abstract

Learning from experience of dengue outbreaks in Tainan City in 2015, the Tainan health authorities collected weekly Ovitrap data through GIS, and had taken integrated control strategies, including eliminating mosquito habitats, on-site survey, and use of preventive pesticide, in 2017. With this effort, the authorities successfully smashed more than 1.2 million mosquitoes.

Furthermore, the number of healthcare facilities providing NS1 antigen rapid test increased from 22, in 2015 to 259 in 2017. The patient hidden period, defined as the interval between symptom onset and notification, decreased to less than 3 days.

The health authorities established district-level command centers, responsible for epidemic prevention, monitoring the high-risk spots, mapping the epidemic area, and evaluating the risk profile. Besides, after rain, command centers immediately mobilized personnel and other resources to manage the environmental sanitation, breeding site elimination and chemical control for mosquitoes.

Finally, Tainan City cooperated with academic research units to develop diversified prevention strategies, such as Gravitrap, mosquito trap, and education in schools. The authorities established a scientific and systematic vector monitoring mechanism to prevent dengue fever infections, and thus no further domestic case was notified in Tainan in 2017.

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We recommended that other health authorities following the strategies of Tainan government, and setting up vector surveillance mechanism to eliminate vector breeding sources and effectively lower mosquito density.

Keywords: Dengue fever, Tainan City, vector surveillance, NS1 antigen rapid test institution, prevention district