

Evaluation of susceptibility of *Aedes aegypti* larvae against temephos in selected areas of Mandalay district

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Abstract

The main vector of dengue fever and dengue haemorrhagic fever is *Aedes aegypti* in Myanmar. The use of chemicals is an effective way to reduce mosquito-borne viral disease transmission. Application of larvicides is the first stage of chemical control to kill the mosquitoes at the breeding site before disease transmission in community. This study was performed to assess the susceptibility status of *Ae. aegypti* larvae to temephos (0.02 mg/L diagnostic dosage and 1 mg/L applied dosage). Larval bioassays were conducted by using the WHO standard susceptibility procedures. Mosquito larvae were collected from Min Te Ekin ward in Aung Myae Thasan township, Maha Myain ward in Maha Aung Myae township and Keik Sana Mahe ward in Chan Aye Thasan township during June to August, 2013. The 50% lethal times (LT₅₀) for all strains of *Ae. aegypti* tested against diagnostic and applied dosages of temephos were found to be in the ranges between 77.00 to 109.74 minutes and 38.29 to 47.42 minutes, respectively. The mortality rates of *Ae. aegypti* larvae in all study areas were 100% to temephos, after 24 hours exposure. Based on the results, *Ae. aegypti* larvae in all areas are susceptible to temephos (diagnostic and applied dosages).