

# A COMPARISON OF DENGUE HEMORRHAGIC FEVER CONTROL INTERVENTIONS IN NORTHEASTERN THAILAND

Anun Chaikoolvatana<sup>1</sup>, Suparat Chanruang<sup>1</sup> and Prakongsil Pothaled<sup>2</sup>

<sup>1</sup>Department of Pharmaceutical Sciences, Ubon Rajathanee University; <sup>2</sup>Health Care Management Master Program, Ubon Rajathanee University, Ubon Ratchathani, Thailand

**Abstract.** This study compared the effectiveness of the currently available interventions of dengue vector and dengue hemorrhagic fever (DHF) control used in northeastern Thailand, an area with a high incidence of the disease. Also, the basic knowledge of dengue vector and DHF control of a group of 568 participants from local communities was measured. These communities were divided into two groups that had no reported cases in the previous year (non-DHF) and a group that had reported cases (DHF). Three current interventions of dengue vector and DHF control were assessed: insecticide fogging, 1% w/w temephos sand granules, and a combination of these two. Assessment included numbers of DHF cases, vector indices [house index (HI), container index (CI), and Breteau index (BI)], and cost. A multiple choice questionnaire was used to measure participants' basic knowledge desirable for knowledge retention. Data was statistically analyzed by the use of means, standard deviations, percentages, ANOVA repeated measure, and logistic regression. The results showed 1% w/w temephos sand granules as the most effective intervention of dengue vector and DHF control and there was a statistically significant difference between the control measures ( $p = 0.001$ ). Most participants had either a very low or very high level of knowledge and basic knowledge was statistically significantly associated with vector index (BI) ( $p = 0.008$ ). Participants stated that they mainly gained knowledge about dengue vector and DHF control from public health workers followed by television and public media. Overall, the findings of this study illustrated the importance of public health workers and communities in health issues at the local level and the need to assess the benefits of current interventions and combinations of current and new interventions of dengue vector and control.

---

Correspondence: Asst Prof Anun Chaikoolvatana,  
Pharmacy Practice Group, Department of Pharmaceutical Sciences, Ubon Rajathanee University,  
Ubon Ratchathani, Thailand.

Tel: 66 (045) 353671; Fax: 66 (045) 288384

E-mail: kkc5476@yahoo.com, phanunch@hotmail.com