Effect of Household Environment and Community participation on Dengue transmission in Thailand

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Background: Household environment and preventive behaviors are key elements of dengue prevention and control success. This study aimed to investigate the associations between household risk to dengue by using cross-sectional study.

Methods: Each dengue epidemic province was selected from 4 regions of Thailand including Bangkok. Two districts, one from the highest and another from the lowest dengue incidence areas, were selected from 5 provinces. The household leaders in highest dengue areas were interviewed and household environment were observed.

Results: Of 4,561 households, 194 were reported having dengue case(s) in the past year and found that outdoor solid waste disposal was significantly influenced household risk to dengue. In contrast, having gardening area reduced risk at household level by 32%. Moreover, this study did not find the association between knowledge and attitude on dengue that may relate to a last long exposure of the dengue information. Non-significant association of water storage and dengue transmission in this study may relate to high coverage of applying Abate sand in study area. Importantly, high level of community participation in dengue prevention and control in infected areas was the key factor to against dengue.

Conclusion: Sustainable process of encouraging community members to eliminate vector breeding sites such as outdoor solid waste disposal is likely lead to an achievement of dengue prevention and control.