

RESEARCH

Open Access

# Targeting educational campaigns for prevention of malaria and dengue fever: an assessment in Thailand

Macy Brusich<sup>1</sup>, John Grieco<sup>1</sup>, Naomi Penney<sup>1</sup>, Rungarun Tisgratog<sup>2</sup>, Wanapa Ritthison<sup>3</sup>, Theeraphap Chareonviriyaphap<sup>2</sup> and Nicole Achee<sup>1\*</sup>

## Abstract

**Background:** The current study assessed the knowledge, attitudes, and practices (KAP) of at-risk populations for malaria and/or dengue fever in relation to mosquito exposure and household mosquito control practices. Specific objectives included comparison of individual and household level health practices between a rural and urban setting in Thailand. Findings are intended to guide Thailand Ministry of Health educational campaigns targeting arthropod-borne disease.

**Methods:** A mixed method design was employed using a forced choice and open-ended questionnaire to assess KAP of participants seeking point-of-care treatment for malaria and/or dengue fever at government health-care facilities. Following informed consent, household construction characterization (percent eave gap, floor, wall, and roof material) and mosquito collections both indoors (using aspiration) and outside (using traps) were conducted at a subsample of participant homes. All mosquitoes were identified to genus and anopheline and aedine samples processed for potential pathogen infection.

**Results:** A total of 64 participants were recruited from both study sites; 62 categorized as malaria symptomology and 2 categorized as dengue across all study healthcare facilities. Significant associations between study site and household construction were indicated. Trends also identified household level practices and both occupation and household construction regarding type of mosquito control products purchased and the abundance of mosquitoes in sampled homes.

**Conclusion:** Overall, Ministry of Health information from education campaigns regarding malaria and dengue fever strategies is reaching the intended target populations at the study sites. Participants are aware of the presence of mosquitoes and that they serve as the potential vector for transmitting malaria and dengue fever diseases. However, specific knowledge gaps were also identified in each study site that may influence exposure to infected mosquitoes. Findings from this study are intended to guide future health education campaigns in these study settings to address specific community needs.

**Keywords:** Malaria, Dengue fever, Education campaigns, Vector-control, Knowledge, Attitudes, and Practices (KAP), Thailand

\* Correspondence: [nachee@nd.edu](mailto:nachee@nd.edu)

<sup>1</sup>Eck Institute for Global Health, University of Notre Dame, 120 Brownson Hall, Notre Dame, IN 46556, USA

Full list of author information is available at the end of the article