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Key messages

- Participants had high levels of knowledge around dengue and positive attitudes towards prevention and treatment.
- However, self-reported practices did not match observed practices, and no correlation was found between knowledge and observed practices.
- A more comprehensive strategy for behaviour change that goes beyond simple education campaigns is needed to change practices and reduce dengue transmission.

Introduction

The World Health Organization global strategy for dengue prevention aims to reduce mortality rates by 50 percent and morbidity by 25 percent by 2020.

The adoption of an integrated vector management approach using community-based methods, tailored to the local context, is one of the recommended strategies to achieve these objectives.

Understanding local knowledge, attitudes and practices is therefore essential to design suitable strategies that are relevant to local contexts.

Methods

A knowledge, attitudes and practices (KAP) survey was administered to 600 randomly chosen households in 30 villages in Kampong Cham, Cambodia, one of the most populated provinces of the country. KAP surveys were administered to a sub-sample of households where an entomology survey had previously been conducted, during which *Aedes* larval/pupae and adult female *Aedes* mosquito densities were recorded.

Results

Participants had high levels of knowledge regarding the transmission of dengue, with 96.7 percent identifying mosquitoes as the dengue vector and 95.5 percent able to identify at least one breeding site. *Aedes* breeding and biting prevention methods were similarly high. The majority of participants (97.5 percent) believed they were at risk and that dengue transmission is preventable (77.8 percent) (Table 1). However, self-reported vector control practices did not match observed practices recorded in our surveys. No correlation was found between knowledge and observed practices either (Table 2).

Table 2: Regression and negative binomial regression analysis of cluster level knowledge, self-reported practices and observed practices

	Regression Coefficient	95% CI	P-value	R-squared
Proportion of households with miscellaneous containers (including dry/wet containers)				
Mean cluster knowledge of miscellaneous containers as breeding sites	0.97	0.43-1.51	0.860	0.0011
Proportion of households who reported clearing miscellaneous containers	0.08	0.43-1.51	0.821	0.0019
Proportion of households with <i>Aedes</i> larvae/pupae in miscellaneous containers				
Mean cluster knowledge of miscellaneous containers as breeding sites	0.12	-0.30-0.54	0.782	0.0028
Proportion of households who reported clearing miscellaneous containers	0.05	-0.22-0.32	0.858	0.0012
Mean number of resting female <i>Aedes</i> mosquitoes per household				
Mean cluster knowledge of miscellaneous containers as breeding sites	-0.10	-2.85-2.65	0.971	>0.001
Proportion of households who reported clearing miscellaneous containers	5.28	2.97-7.59	0.022	0.1064



Photo: Participant reading educational material

Table 1: Knowledge of dengue transmission, prevention practice and symptoms

	n=600	% (95% C.I.)
How is dengue transmitted?		
Mosquito	581	96.7 (94.3-98.1)
When do dengue mosquitoes most often bite?		
Day	425	74 (69.6-78)
Night	103	17.8 (14.5-21.6)
Don't know	53	8.2 (5.4-12.4)
Where can the dengue mosquito breed?		
Knows 1 or more breeding sites	575	95.5 (93.1-97.1)
How can you prevent mosquitoes from breeding?		
Use Abate®	452	73.1 (68.9-76.9)
Knows 1 or more prevention methods	569	93.9 (90.6-96.1)
Knows 1 or more prevention methods other than Abate®	493	81.33(75.5-86)
How can you prevent mosquitoes from biting you or your family?		
Knows 1 or more mosquito bite prevention methods.	562	94.1 (91.7-95.9)
What are the symptoms of dengue?		
Don't know	32	5.1 (3.5 -7.4)
Fever	553	92.1 (89.3- 94.3)
Somnolence	349	58.5 (54.5- 62.4)
Rash	302	49.2 (44.2- 54.3)
Know 3 or more symptoms	264	42.7 (39.2- 46.4)

Conclusion

An education campaign for dengue prevention in this setting, where knowledge levels are high, is unlikely to have any significant impact on practices unless it is incorporated into a more comprehensive strategy for behavioral change, such as the Communication for Behavioural Impact method, which implements behavioural models as well as communication and marketing theory and practice.

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