



# Knowledge, attitudes and practices about *Aedes aegypti* (Diptera: Culicidae), vector of dengue, chikungunya and zika in Villavicencio (Colombia)

<sup>1</sup>Gloria Isabel Jaramillo-Ramírez and <sup>2</sup>Luz Stella Buitrago-Alvarez

<sup>1</sup>Medicine School, Universidad Cooperativa de Colombia, Villavicencio.

<sup>2</sup>Entomology Laboratory, Health Secretary, Meta

[gloria.jaramillor@campusucc.edu.co](mailto:gloria.jaramillor@campusucc.edu.co)



## Introduction

*Aedes aegypti* transmits dengue, chikungunya and zika, and high infestation rates of this mosquito are responsible for maintaining these arbovirus outbreaks in endemic areas. In order to help the vector control programs in an endemic area in Colombia, this research estimated the knowledge, attitudes, and practices regarding *Ae. aegypti* and the transmit diseases in Villavicencio, Colombia.

## Materials & Methods

A descriptive, cross-sectional study was conducted. Verbal informed consent was obtained from adults and then interviewed using a structured questionnaire.

Houses were randomly selected; in the event that no one was home, the next house was selected. Entomological data were recorded to calculate the larval (house, deposit, Bretau) and breeding sites indexes at homes.

## Results & Discussion

Seventy-six houses (309 people) were evaluated. 70% were aware that dengue, chikungunya or zika are viral diseases. Fever was considered the most important symptom and could be related to the experience of having these diseases at home.

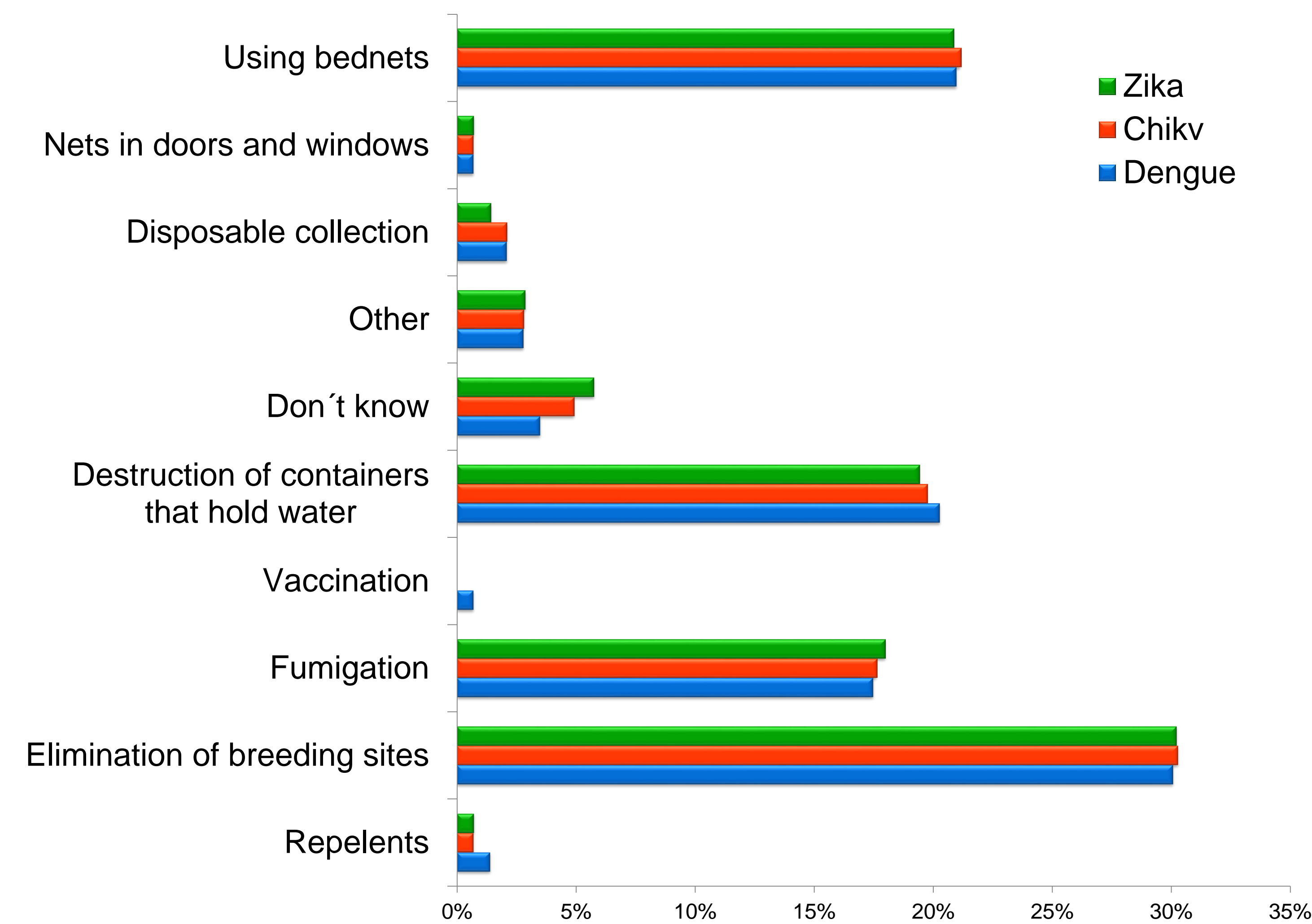
79.45% knew that a mosquito transmits these diseases but did not know the scientific name or that only the female bites. 81.36% did not know the life cycle of the mosquito but were aware that the elimination of breeding sites and destruction of containers with water could aid in transmission prevention.

88.46% recognized that the community should be responsible for these control actions at home, but the recommendations are not implemented due to lack of interest or apathy.

The average house index was 40.3%, and Breteau index was 47.66%. Low tanks represented the most common breeding site.

People are aware of the importance and the responsibility that they have to control mosquitoes at home and that the government complements these actions with education, fumigation, and the evaluation of the current strategies.

Answers to the question: "How to prevent dengue, chikungunya and zika diseases" in two neighborhoods in Villavicencio, Colombia



*Aedes aegypti* larval infestation levels (%) of breeding sites in two neighborhoods in Villavicencio, Colombia

	%			Average ± SD
	Nueva Colombia	La Reliquia		
<b>Larval Index</b>				
House	39,22	41,38	40,30	1,53
Deposit	10,76	11,57	11,17	0,57
Breteau	47,06	48,28	47,67	0,86
<b>Breeding sites</b>				
High tank	0,00	0,00	0,00	0,00
Low tank	62,50	57,14	59,82	3,79
Tires	4,17	7,14	5,65	2,10
Plants	4,17	0,00	2,08	2,95
Containers in use	8,33	28,57	18,45	14,31
Containers in disuse	20,83	7,14	13,99	9,68

## Conclusions

It is necessary to review information campaigns, communication, and educational programs promoted in the municipality, as they currently do not empower residents to take adequate preventive measures.

These programs need to translate population knowledge about vector borne diseases into positive preventive practices that lead to a reduction in the transmission of dengue, chikungunya, and zika in these communities. This will require more infrastructure and resources for long-term sustainability.

## Further research

Design new vector control campaigns that involve the communities, and lead to the improvement of vector control programs.

## References

- Tabachnik WJ. 2016. Ecological effects on arbovirus-mosquito of transmission. *Curr Opin Virol*. 21: 124-131
- Fernandez I, Danis R, Casas M, Ulloa A, Bond G, Marina C, et al. 2015. Historical inability to control *Aedes aegypti* as a main contributor of fast dispersal of chikungunya outbreaks in Latin America. *Antiviral Res*. 124: 30-42.
- Instituto Nacional de Salud. 2014. Protocolo de Vigilancia en Salud Pública Dengue. Protocolo Vigilancia. (Report No.: PRO-R02.004). Bogotá: Instituto Nacional de Salud.
- Syed M, Saleem T, Syeda U, Habib M, Zahid R. 2010. Knowledge, attitudes and practices regarding dengue fever among adults of high and low socioeconomic groups. *J Pak Med Assoc*. 60: 243-247

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