Here vs. there: An exploration of vector-borne disease related knowledge and behavior in the context of local vs. national endemicity

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Vector-borne disease management strategies often rely on individual knowledge and behavior. Prevention of domestic dengue virus transmission involves elimination of standing water from the home, while disease prevalence estimates require medical diagnoses, which occur through healthcare seeking behavior. Thus, public health campaigns disseminate basic vector information as well as early disease symptoms to watch out for. Here, we compared individual knowledge and behavior related to two vector-borne diseases, dengue virus infection (DVI) and Chagas disease (CD), in Medellin, Colombia.

In Medellin, DVI is transmitted locally, while CD is transmitted widely throughout the country, and even in the same state, but not within the city limits. To understand the reach of public health information on each disease and identify any associated sociodemographic factors, we interviewed 766 participants in public parks and commercial centers throughout Medellin. Questions fell under three themes: disease familiarity, ability to recognize the vector, and healthcare seeking behavior when presenting acute symptoms of either disease.

We found that 97% (742/766) of participants had heard of DVI, while 16% (124/766) had heard of CD. Despite their familiarity with DVI, only 40% of respondents correctly recognized its vector, Aedes aegypti. Far fewer (2%) could recognize the Chagas vector. There was little difference between CD and DVI in healthcare seeking behavior; 91% and 94% reported that they would seek treatment, respectively. Older participants were more likely to have heard of Chagas while younger people were more likely to have heard of dengue.

Our findings suggest that vector-borne disease awareness in Medellin has a strong ‘here vs there’ component, even though ‘there’ is just a few miles away. Vector recognition is an area for strengthening, even for locally transmitted diseases. Healthcare seeking behavior seems to be independent of disease awareness, and is an area meriting further study in this population.

1. What is your pathogen? Multiple options possible (e.g. if working on coinfections)
   
   **Other viruses** : dengue virus
   
   **Protozoan** : Trypanosoma cruzi

2. On a scale of 1-5 is your work mostly eco/epidemiological or evolutionary? 1 (100% eco/epidemiological)

3. On a scale of 1-5 is your work mostly theoretical or experimental/empirical? 5 (100% empirical)