

An Evaluation of Knowledge, Attitudes and Practices Related to Vector-Borne Diseases Among Providers in Southern California

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Background

Mosquito-borne viral infections, including Zika virus, chikungunya, and dengue, pose an increasing risk to the Southern California border region. *Aedes aegypti* and *Aedes albopictus* mosquitoes, the primary vectors for these emergent infections, are now endemic in our region. The presence of these mosquitoes, coupled with returning travelers from areas where there is local transmission of these diseases, increases the possibility of local transmission in the border region. In anticipation of these potential diseases in San Diego County, public health officials assessed the knowledge, attitudes and practices of local providers regarding mosquito-borne viral infections.

Objectives

Assess current knowledge, attitudes, and practices among clinicians and other health care providers about endemic and emerging mosquito-borne diseases.

Methods

This KAP survey was conducted with San Diego County clinicians via a web-based tool, and in Imperial County via paper. The 24-item questionnaire focused on clinical manifestation, diagnostic testing, transmission routes, and prevention measures. All questions included information for the 4 arboviral diseases: Chikungunya, Dengue, West Nile virus, and Zika. Frequencies of respondents were calculated and summarized depending on the topic. Frequencies reported show varying sample sizes due to non-response.

Results

A total of 220 providers participated in the survey in 2016-2017. Of those respondents, 31 (14%) did not think arboviral diseases posed a risk to their communities. A large number of providers

reported not being confident that they have up-to-date knowledge on vector-borne diseases (range=20-54%). When asked about patient counseling, a large proportion of providers reported they inquire about recent travel (85% of n=176) or bug bites (73% of n=176) when patients present with febrile illness. A lower proportion reported they inquire about mosquito exposure (70% of n=176) or outdoor habits (61% of n=176). However, providers rarely or never collected a serum sample (55% of n=176), or paired serum samples during the acute and convalescent phases (69% of n=176) within 30 days of exposure. Although most providers knew that West Nile virus (WNV) is locally transmitted in the region, many were not aware of local transmission of dengue (54% of n=220) and Zika virus (62% of n=220) in Mexican states with close proximity to California. Similarly, there were gaps in providers' knowledge of clinical manifestation, as few providers were familiar with the range of symptoms caused by the 4 diseases (4-9% of n=206, depending on the disease). When providers were asked about known modes of transmission, responses showed other knowledge gaps, for example, a wide proportion were unfamiliar with mosquito bites (29% of n=207).

Conclusion

While some providers are informed of the current risk to Southern California residents associated with vector-borne diseases, there are still gaps in knowledge. This assessment demonstrates the need for additional provider education and training to enhance current levels of knowledge and practices as they relate to vector-borne diseases.

Learning objectives

- Discuss the knowledge of health care providers regarding the transmission and clinical presentation of mosquito-borne diseases of interest in Southern California.
- Describe the attitudes and practices of health care providers that could be addressed to mitigate the threat of local transmission of mosquito-borne diseases in Southern California.

Target Audiences

Physicians and other health care providers that serve regions at risk of vectorborne diseases. Epidemiologists and other public health professionals that work in collaboration with health care providers. Medical educators interested in knowledge, attitudes, and practices projects.

Keyword(s): Physicians, Evidence-Based Practice

Learning Areas

- Assessment of individual and community needs for health education
- Other professions or practice related to public health
- Protection of the public in relation to communicable diseases including prevention or control

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