

Abstract

Seroprevalence of Chikungunya, West Nile Virus and Dengue Virus in Febrile Patients visiting selected health facilities in Trans Nzoia County

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Introduction: Arboviruses of the families Flaviviridae, Togaviridae and Bunyaviridae are suspected to be an important cause of morbidity in Western Kenya. However, literature on the exact burden of disease is scanty.

Methods: We collected 1578 serum samples collected from febrile adults with no evidence of malaria or typhoid exposure visiting Andersen Medical Clinic, Endebess Sub District Hospital and Kitale District Hospital. We used indirect ELISAs to screen for exposure to Dengue, Chikungunya and West Nile Viruses, and Plaque Reduction Neutralisation Tests to confirm the status of those samples that were ELISA positive.

Results: Data on gender was available for 899 samples. Of those, 63.3% were female while 36.7% were male. The median age was 28 years, while the mean temperature was 39.1°C. Common symptoms included rash (29.7%), headache (74.1%) jaundice (15.0%) and eye infection (20.9%). Bleeding diatheses were uncommon (0.8%). Of the samples we tested, 8.1% (127/1578) were CHIKV PRNT positive, 0.4% (6/1379) Dengue PRNT positive and 0.9% (12/1370) WNV Positive.

Conclusion: Exposure to Chikungunya virus is common in Trans Nzoia and may be an important cause of febrile illness.

Key words: Arboviruses, Chikungunya, Trans Nzoia, Plaque Reduction Neutralization Tests

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