

**Serological survey for human West Nile virus exposure in febrile clients
attending selected health facilities in Trans Nzoia District, Kenya**

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**A thesis Submitted in partial fulfillment for the degree of Master of Science in
Molecular Medicine in the Jomo Kenyatta University of Agriculture and
Technology**

2012

ABSTRACT

West Nile Virus (WNV) is considered to be one of the most wide spread group of arboviruses in Africa, Asia and America. The geographical range of the WNV has broadly extended over the years and the virus has transcended geographical barriers and become established even in non-endemic areas. This sero-survey study reports WNV activity in Trans Nzoia district, Kenya. The study cohort consisted of 1114 serum samples from febrile patients attending three different health facilities in the area. Antibodies to West Nile Virus (WNV) were detected in 105 (9.8%) of the patients by indirect IgG Enzyme Linked Immunosorbent Assay (ELISA). Of these, 12 (1.1%) infections were confirmed by Plaque Reduction Neutralization Test (PRNT) therefore the seroprevalence of WNV in the area. This suggests that there is low WNV activity in Trans Nzoia district, Kenya. The detection of low levels of WNV and the low intensity of the severity of the clinical symptoms suggest a less virulent strain is in circulation or previous exposure to other closely related flavivirus. The linear increase in WNV IgG and IgM seroprevalence rates with age suggests continuous exposure of this population to the virus. Patients of both genders were exposed with 69% female and 31% male positive for WNV, this disparity can be attributed to cultural practices and activities that increase the risk of exposure among the female subjects. This study provides baseline information for further research and strategic planning. Therefore despite the low levels of WNV, appropriate interventions should be established by the public health authorities in view of the fact that it is a public health threat.