

**Seroprevalence of Dengue 2 Virus Infection in Patients Presenting with Febrile
Illness in Selected Health Facilities in Trans Nzoia Region, Kenya, 2009**

Samson Muuo Nzou

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ABSTRACT

Dengue Virus and other Arbovirus infections are considered public health threats in Kenya. Although it is evident that these infections are now emerging, an accurate estimate of the magnitude of the problem has not been documented. Dengue often presents as pyrexia, hence diseases which present with febrile illness may contribute to false diagnosis of dengue or the diagnosis is never made. For the health burden to be realized, the study was aimed at investigating dengue 2 virus infection and the seroprevalence in patients presenting with febrile illness in Trans Nzoia. To describe and document the exact threat posed by this virus in Kenya, there was need to use the right laboratory tools to conduct regular serological surveys. For such surveys to be feasible in the local research environment in Kenya, a cross sectional study was done using assays which were cheap, feasible, rapid and efficient. Optimized Enzyme Linked Immunosorbent (ELISA) and Plaque Reduction Neutralization (PRNT) assays were used for this purpose. Serological surveillance of dengue 2 virus using these assays was done in Kitale and Endebess District Hospital and Andersen Medical Centre, all located in Trans Nzoia region. A total of 1121 samples were screened for dengue 2 virus infection by ELISA and PRNT and the seroprevalence found to be 0.9% with most of the positive patients coming from Kitale district hospital. The clinical information and laboratory correlated well with the laboratory diagnosis with 35 (3.1%) and 15 (1.3%) positive patients presenting with fever and headache respectively. In conclusion, the study reveals the existence of dengue 2 virus infection that poses a danger of spreading from one area to another. The data obtained will play an important role in contributing to the

management of febrile illness in Kenya generally and in particular Trans Nzoia. Dengue

2 virus will be an addition to the diagnosis of febrile illness in this area.