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Lassa fever outbreak involving healthcare workers in Taraba State, Nigeria, March 2012


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Background: Lassa fever is an acute, highly infectious viral haemorrhagic illness caused by Lassa fever virus. The reservoir is *Mastomys natalensis*. The disease is endemic in West African sub region causing 300,000–500,000 infections annually, with about 500 deaths. In March, 2012, we investigated a reported outbreak of Lassa fever in Taraba State, Nigeria to confirm the outbreak, determine its extent, characterize the outbreak and institute public health actions.

Methods & Materials: We reviewed hospital records and used IDSR standard case definition for Lassa fever to identify and line-list cases. A suspected case was defined as “any person with severe febrile illness not responsive to the usual causes of fever in the area with or without sore-throat and at least one of the following: bloody stools, vomiting blood, bleeding into the skin and unexplained bleeding from the nose, vagina or eyes”. A standardized line-listing form was developed to capture socio-demographic and clinical information of the cases. Various exposure factors including age, gender, occupation and contact history were examined.

Results: A total of 35 cases were recorded. Nine of 35 cases were laboratory confirmed (25.7%). Altogether, 14 deaths were recorded giving a case fatality rate of 40%. Majority of the cases belonged to the age group 25–34 years (40%) with females constituting 51%. Most of the cases were healthcare workers (22.9%). The commonest presenting features were fever (85.7%), cough (28.6%), bleeding from orifices or into skin (25.7%) and headache (20%). In addition, the State’s Epidemic Management Committee was non-functional resulting in uncoordinated response to the outbreak. There were many exposure factors to Lassa fever such as over-crowding, drying of food items along high ways and bush burning and there was low index of suspicion of Lassa fever among health care workers.

Conclusion: There was a confirmed outbreak of Lassa fever in Taraba State mostly affecting healthcare workers. Community sensitization and sensitization of health workers in Taraba State on Lassa fever were carried out. We recommended that the State should reactivate its Emergency Management Committee, surveillance of Lassa fever should be strengthened, Public/Health workers sensitization activities should be scaled up and records keeping should be improved.

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Seroepidemiology of arboviruses among febrile patients in the Lake/River Basin Areas of Baringo, Naivasha and Tana, Kenya


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Background: Arboviruses replicate in blood feeding arthropods and are classified into three main families, namely; *Bunyaviridae*, *Togaviridae* and *Flaviviridae*. Outbreaks of RVF and YFV in Kenya have been reported but paucity of data exists on the actual prevalence within the lake/basin areas in humans. This was a hospital-based cross-sectional descriptive survey that aimed at determining the seroepidemiology and risk factors of selected arboviruses among febrile patients in the lake/river basin areas of Baringo, Naivasha and Tana, Kenya.

Methods & Materials: 379 samples were collected and screened for the presence of Immunoglobulin G (IgG) and M (IgM) antibodies to CCHFV, RVFV, WNV, and CHIKV. Samples positive for CHIKV and WNV were further subjected to plaque reduction neutralisation test (PRNT) to determine the presence of specific antibodies for the causative agent and rule out cross reactivity. A multiple logistic regression model was used to investigate the risk factors associated with evidence of exposure to CCHFV, RVFV, WNV and CHIKV.

Results: Overall 176/379 (46.4%; 95%CI 41.4–51.5%) were positive for at least one of these arboviruses. Virus specific prevalence for CCHF, RVF, WN and CHIK was 25.6%, 19.5%, 12.4% and 2.6%, respectively. These prevalences varied significantly with geographical site, with Tana having the highest arboviral seropositivity of 60%, Baringo 52% and Naivasha 32%. Seroprevalence of WNV increased with age. Tick bites, contact with donkeys and contact with cows increased the odds of infection with CCHFV. PRNT results confirmed that the actual virus circulating in Baringo was Sindbis, while Semliki Forest virus was circulating in Kotile and CHIKV in Naivasha. WNV was confirmed to be circulating in the three sites with no cross reactivity being detected.

Conclusion: This study has demonstrated that there is a high burden of disease due to febrile illness in the river/lake basin regions. Recommended disease control and prevention strategies should be virus and site specific for effectiveness.

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