

## **Spatial clustering and epidemiological aspects of visceral leishmaniasis in two endemic villages, Baringo District, Kenya.**

### **Abstract**

Visceral leishmaniasis (VL) seroprevalence in Kenya is unknown because of the lack of a practical and accurate diagnostic test or surveillance system. A novel serological assay was used to estimate the seroprevalence of Leishmania-specific antibodies, and Global Information System and spatial clustering techniques were applied to study the presence of spatial clusters in Parkarin and Loboï villages in Baringo District in 2001. VL seroprevalences were 52.5% in Parkarin and 16.9% in Loboï. Significant associations among seropositivity and house construction, age, and proximity to domestic animal enclosures were found. A significant spatial cluster of VL was found in Loboï. The spatial distribution of cases in the two villages was different with respect to risk factors, such as presence of domestic animals. This study suggests that disease control efforts could be focused on elimination of sand fly habitat, placement of domestic animal enclosures, and targeted use of insecticides.