The seroprevalence of caprine brucellosis in western Kenya

Akoko, J.M.[1,2], Kiyongá A.N[1], de Glanville, W.A.[1, 2], Thomas, L.F.[1,2] and Fèvre, E.M.[1, 2]
[1]International Livestock Research Institute, Kenya; [2]Centre for Infection, Immunity and Evolution, University of Edinburgh.
Contact; J.Akoko@cgiar.org

Background Information

Zoonotic infections account for over two thirds of all human infectious diseases worldwide[1]. Brucellosis is one of the most important zoonotic diseases**, *Brucella meliensis*** accounts for most of the human cases reported globally and has **goats as their preferred host**[2]. Human infection is always due to **contact with infected animals** or **consumption of contaminated food products**. In western Kenya, brucellosis is a common diagnosis in hospitals and health centers, but **no research has been done to establish the importance of goats as a potential reservoir for human disease**. There are growing numbers of dairy goats in the region, and the increasing demands for goat milk due to its high nutritional value.

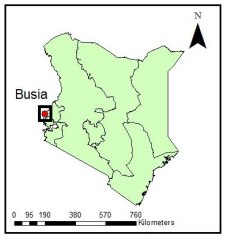
The aim of this study was to establish the seroprevalence and distribution of caprine brucellosis in Western Kenya.

Methodology

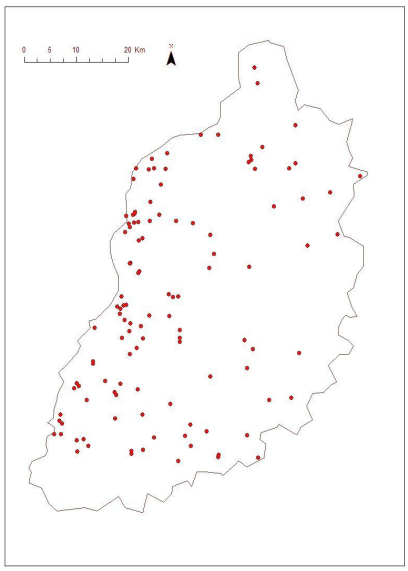
A total of **412 homesteads** were randomly selected within a radius of 45km from **Busia town**. Jugular blood samples were collected from all goats in goat keeping homesteads and a questionnaire on reproductive health in goats was performed. Serum was tested for brucellosis using the Rose Bengal Test (sensitivity is 87.4% and specificity is 100%)[3]

Results

27% of the selected households keep goats
4.29% of goats sampled had experienced abortion
Rose Bengal Test: No positive results (n= 355)



Map of Kenya showing the study area (Busia)



Map of homesteads where goats were sampled in study area

Discussion, Conclusions and future plans

1) The prevalence of brucellosis in goats appears to be very low in Western Kenya. The role of goats in the transmission of brucellosis likely to be insignificant.
2) RBT results should be confirmed by another test. Therefore, we will use Lateral Flow Assay and ELISA tests to confirm the results.
3) Conduct a similar study in a pastoral community and compare the prevalence in the two areas.
4) There is need for testing other potential hosts as well as milk sourced from outside the region.
5) The goats that had experience abortion (4.29%) also tested negative for brucellosis. Abortion might have been caused by other diseases or stress related factors.

References;
1)Taylor LH,Latham SM and Woolhouse ME (2001).Risk factors for human disease emergence.Transactions of the Royal Society of London.B: Biological Sciences 29;365(1411):983-9.
2)Blasco JM, Molina-Flores B. Control and eradication of brucella melitensis infection in sheep and goats. Vet Clin North AM Food Animal Pract. 211mar; 27(1):95-104.doi:10.1016/j.cvfa.2010.10.003
3)Ramon Diaz, et al. The rose Bengal Test in Human Brucellosis:Neglected Test for the Diagnosis of a Neglected Disese.