

## **Seroprevalence of *Cysticercus cellulose* and associated risk factors in free-range pigs in Kenya**

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### **Abstract**

Porcine cysticercosis is an emerging zoonosis with public health and economic importance. A cross-sectional study was undertaken to investigate the disease in free-range pigs on 182 smallholder farms in Busia District, Kenya. The survey households were selected using a snowballing technique. Serum samples were obtained from 284 pigs of all ages at farm level and 37 pigs from slaughter slabs in the study area. The samples were analysed for the presence of cysticercus antigen using an antigen enzyme-linked immunosorbent assay (ELISA). A structured questionnaire was administered to determine the risk factors for porcine cysticercosis on the study farms. At pig level, the total number of pigs testing positive were 11, resulting in a seroprevalence of 4% (95% confidence interval (CI): 1.9–6.2%), while the farms with a positive pig were 9% (95% CI: 3.9–14.1%). All pigs examined in the slaughter slab survey were seronegative. The distribution of possible risk factors for porcine cysticercosis that were observed at farm level was as follows: free-range pig keeping (100%), history of human taeniosis infection in a family (51%), slaughtering of pigs at home (20%), lack of meat inspection (15%) and absence of latrines (15%). The only significant ( $\chi^2 = 4.4$ ,  $P = 0.034$ , odds ratio (OR) = 3.8) risk factor associated with the occurrence of cysticercosis was lack of latrines at household level. The study shows that porcine cysticercosis is prevalent in free-range pigs in Busia District, Kenya and thus control measures need to be instituted.