

**ASSESSING PREVALENCE, BIOSECURITY MEASURES
AND LOST CARCASS-VALUE ASSOCIATED WITH PORCINE CYSTICERCOSIS
ALONG PORK VALUE CHAIN IN WESTERN KENYA**



MARIE - FRANÇOISE MWABONIMANA



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ABSTRACT

Porcine cysticercosis (PC) infection is a zoonotic disease of public health concern globally, caused by *Taenia solium* larvae. The prevalence of PC infection is highest where domestic pigs scavenge for food in poor sanitary conditions. Western Kenya, especially peri urban areas, have a high concentration of domestic pigs reared under the scavenging system, which likely expose pigs and humans to PC infections resulting in huge economic losses. The objectives of this study were to determine PC prevalence, PC management practices and loss in carcass value associated with PC infection along the pork value chain in Busia and Kakamega Counties of Western Kenya. Data was obtained on random sample of 162 farms with 400 pigs in cross-sectional survey of randomly selected villages. PC infection was based on *T. solium* cysts presence and Ag-ELISA test. The mean prevalence of *T. solium* cysts within the scavenging pig' population sample was 3.8 at the farms and 5.3% at the slaughter slabs while PC infection prevalence from meat inspection was 1.8%. Management practices at farm did not target controlling PC because majority of farmers reared pigs in free range scavenging (69.1%) though use of pit latrines (72.8%) was high but majority were not aware (82.7%) of the link between pig management system and PC, not aware (75.9%) of *T. solium* parasite and not aware (78.4%) of risk factors in the transmission of PC infection. The butchers associated pork from slaughter slabs (76.9%) and home slaughters (73.1%) with high risk. Consumers were in strong agreement that pork in the market is safe (86%), pork from the slaughter slabs is safer than pork from the farms (92%) and that pork from butcheries is safer than pork from the eateries (82%). PC infection in the sample villages was associated with an estimated annual loss of Kes 547,969.29 (US\$ 5,478.70) worth of carcasses from meat inspection and would be Kes 1,613,465.10 (US\$ 16,134.7) if carcasses were condemned on results of Ag-ELISA testing surveillance. While results provide evidence of PC infection being prevalent in Western Kenya and low awareness among farmers of management strategies for PC control and prevention, consumers perceive pork in the market as safe. The prevalence levels and low farmer awareness warrants enforcing mandatory pig confinement and effective use of latrines, effective meat inspection at local slaughter slabs and strengthening public education to create awareness on transmission risk factors and their control and prevention. Further studies should identify different *Taenia* species in cysticercoids pigs in Western Kenya to inform life cycles patterns for appropriate management intervention.

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