

***Taenia solium* taeniosis and cysticercosis in a rural community of Eastern Zambia-A community based study**

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Background: *Taenia solium* is a neglected zoonosis, with neurocysticercosis being the most common cause of acquired epilepsy in endemic areas. In Zambia, multiple studies have indicated high prevalences of porcine cysticercosis, with estimates up to 64.2%, and presence of risk factors in most rural areas. However, there are no published data on the status of the infection in humans in the country. The objective of this study was to determine the prevalence of taeniosis and cysticercosis in humans in a rural community in eastern Zambia.

Methods: In a community-based study, stool and serum samples were collected from all willing participants. A questionnaire was administered to the participating households, which were also geo-referenced. Taeniosis was diagnosed by coprology and by polyclonal antibody based copro-antigen enzyme linked immunosorbent assay (copro Ag ELISA). Cysticercosis was diagnosed by detection of circulating antigens using the B158/B60 Ag ELISA. Collected tapeworm segments were analysed by polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP).

Results (preliminary): A total of 264 households from 21 villages participated, from which 709 stool and 706 serum samples were collected. One stool sample (0.14%) was positive for *Taenia* spp on coproscopic examination while 13 (1.8%) positives were detected by copro-Ag-ELISA. Thirty six serum samples tested positive on Ag ELISA, resulting in an estimated prevalence of human cysticercosis of 5.11%. The recovered proglottids were confirmed to be *T. solium*. The following risk factors were present: lack of meat inspection, consumption and selling of infected pork, free-range pigs, poor sanitation, and absence of toilets in 43.8% of the households. Preliminary statistical analysis revealed that age was significantly associated with human cysticercosis (OR = 1.32; 95%CI = 1.16 – 1.50).

Summary/Conclusions: This study indicates the presence of *T. solium* taeniosis and human cysticercosis in the study community, as well as factors necessary for its transmission. It also indicates the urgent need for more comprehensive studies for a better understanding of the epidemiology of the parasite, which should ultimately lead to adapted control measures.
