Stakeholders’ knowledge, attitude and perceptions on the control of *Taenia solium* in Kamuli and Hoima districts, Uganda

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Presentation outline

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Introduction: *Taenia solium*

*Taenia solium*: One parasite, 3 diseases

- Taeniasis – Adult worms in small intestines of humans
- Porcine cysticercosis (PCC) – cysts in active muscles in pig hosts
- Neurocysticercosis (NCC) – cysts in brain and eyes of human hosts
The health and economic burden

*T. solium* infections in humans (both taeniasis and NCC) affects over 50 million people with 80% of this in low- and middle-income countries (WHO 2021); economic burden due to condemnation of carcasses

The parasite is endemic in much of Latin America, Southeast Asia and sub-Saharan Africa including Uganda
Introduction: Pig sector in Uganda

- Local demand has significantly driven growth in pig production
- 70% of pork produced in Uganda is consumed domestically - Per capita consumption of 3.4 kg/capita per year
- Consumption mainly in pork joints (roadside eateries selling ready to eat pork (fried or roasted)
- Pig rearing is semi-intensive and extensive – free roaming pigs fed on crop residues
- Creates opportunity for infections with *Taenia solium*
The problem

- Transmission may be broken at 6 key control points
- Adoption of control may be limited by contextual factors
- The socioeconomic and cultural factors that may influence adoption have not been studied in Uganda
Objective

- To determine the knowledge, attitude and perceptions of different stakeholders on the control of *T. solium* in Kamuli and Hoima districts
Study site: Uganda (Hoima and Kamuli districts)
Methodology

- Data collected through 20 FGDs and 9 KII s
- 6 with pig farmers, 2 each with community leaders, pig traders, animal health assistants and human health assistants and KII s with officials
- Checklist was developed and pretested along the 6 CCPs.
- Data was analysed using the deductive content analysis in NVIVO
- Ethical clearance from ILRI IREC, CoVAB REC & UNCST
Results: Knowledge on *Taenia solium*

**General knowledge and awareness**
Differential levels of knowledge on *T. solium* and its control
Fragmented knowledge
Poor knowledge on source of infection

**Pig farmers**
Poor knowledge and pork tapeworm
Confounded by knowledge on intestinal infections

**Government officials**
Animal and human health officials had good knowledge
Some could not explain the link to NCC

**Pig traders**
Poor knowledge on how the disease manifests in pigs
 Majority agreed pigs get it when free roaming
Often confused with ASF.

**Community leaders**
Poor knowledge on how the disease manifests in pigs
 Majority agreed pigs get it when free roaming

**Key informants**
Some did not have comprehensive knowledge on the parasite
But identified it as a zoonotic parasite
One had good knowledge on the parasite and its control
Government veterinary and human health leaders had good knowledge
Results: Use of toilets

Coverage
Over half of HHDs have toilets but many in bad condition. No complete walls and roof, no door
Low coverage in flood prone area

Construction
Most toilets were semi-permanent constructed with local materials. Design was influenced by availability of materials
Lack of resources affected toilet construction
Also affected by lack of equipment, lack of space, weak and rocky soils
Traditional norms and customs
Ignorance on importance of having a toilet

Roles
Men constructed the semi-permanent toilets
Women provided materials – thatching grass and water
Women cleaned toilets using brooms and ashes

Enforcement
Women enforced toilet use at HHD level
At community level enforcement done by community leaders and village health teams

Barriers
Age, poorly constructed toilets, no lighting, poor hygiene, smelly esp. in public toilets, wrong intention of constructing, drunkards, cost minimization, beliefs e.g on women esp. pregnant women, on children
Results: Hand washing, deworming, pig confinement, meat inspection, pork preparation

**Pork preparation**
Women prepare pork at home. In most cases meat is well cooked by frying or boiling. In pork joints pork not always well cooked. Lack of time, fuel, skills, many orders and cooking utensils.

**Meat inspection**
Only conducted during holidays. Consumers do not check for cysts (no knowledge and butchers do not allow). Consumers only check for freshness, cleanliness. Some traders inspect under the tongue. Butchers rely on govt meat inspectors. No centralized slaughter place. Political interference.

**Hand washing**
Hand washing facilities available (tippy tap), sometimes with soap. Few people wash hands after toilet. VHTs promote HHD hygiene.

**Deworming**
Different perceptions on deworming (frequency and importance). Albendazole mostly used. Expectant women dewormed. School deworming programmes. School health days x2/year.

**Barriers to pig confinement**
Lack of resources to construct pig pens, poor structures, lack of labour and feeds for confined pigs.

**Pig confinement**
Farmers appreciated the need for housing pigs to avoid infections e.g ASF. No price incentives for fat well reared pig. Middlemen buy small pigs normally raised on free range.
Conclusions

- Pig farmers, community leaders and pig/pork traders had almost no knowledge of *T. solium* infections
- Pig confinement, pit latrine construction, coverage, maintenance and sustained use were influenced by cultural, socio-economic, and physical/environmental factors of the study population and area.
- There is need for stakeholder specific sensitization programs
- Reminders and nudges may lead to change in practice
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