Assessment of the social burden of Taenia solium Cysticercosis in Angonia District, Mozambique

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Assessment of the socio-economic impact of *Taenia solium* cysticercosis in Angónia District, Mozambique

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INTRODUCTION & AIM

*Taenia solium* cysticercosis is an emerging zoonosis which causes both public health, and agricultural problems, in many low-income countries. Neurocysticercosis (NCC) is considered a cause of epilepsy in people of all ages and one of the most important human parasitic neurological diseases. Since epidemiological data on human and porcine cysticercosis were available for Angónia District, Mozambique, the present study was possible to be carried out. The aim of the study was to determine the societal cost of *T. solium* cysticercosis in Angónia District, Mozambique.

MATERIALS, METHODS & RESULTS

Study area
- Population: 330,378 inhabitants (6.6% were estimated to have NCC-associated epilepsy)
- Two types of health sectors: the traditional system composed of traditional healers, and the modern health system consisting of 1 rural hospital, 4 health centres and 3 health points, but still 63% of the NCC-associated epilepsy cases never got any treatment
- Pig population estimated at 20,400 pigs. (35% of the pigs are infected with cysticercosis)

Figure 1: location of the study area

Figure 2: Monetary and health (DALY) components that should be included in the burden assessment of *T. solium* cysticercosis

<table>
<thead>
<tr>
<th>Type of cost</th>
<th>Value in euro</th>
<th>95% CI</th>
<th>% of total costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital</td>
<td>559,766</td>
<td>304,382 - 914,526</td>
<td>52.9</td>
</tr>
<tr>
<td>Antiepileptic treatment</td>
<td>27,582</td>
<td>18,314 - 39,201</td>
<td>2.6</td>
</tr>
<tr>
<td>Medical doctor (public hospital)</td>
<td>24,995</td>
<td>22 - 131,751</td>
<td>2.4</td>
</tr>
<tr>
<td>Inactivity</td>
<td>17,339</td>
<td>2,401 - 34,253</td>
<td>1.6</td>
</tr>
<tr>
<td>Pig losses</td>
<td>160,482</td>
<td>144,024 - 177,289</td>
<td>15.2</td>
</tr>
<tr>
<td>Total costs</td>
<td>1,058,445</td>
<td>671,138 - 1,570,446</td>
<td>100</td>
</tr>
<tr>
<td>Price per NCC-associated epilepsy case</td>
<td>41</td>
<td>24.30 - 62.0</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 1: Estimated direct and indirect annual costs due to *T. solium* cysticercosis in humans and pigs in Angónia District, Mozambique

**CONCLUSIONS**

*T. solium* cysticercosis is a serious public health and agricultural threat for Angónia District. The disease affects the rural population reducing dramatically their economic and societal wellbeing. The population, like the pig production and pork consumption are increasing, therefore *T. solium* cysticercosis will become more prevalent in future if no prevention measures will be taken into account.

Given the impact *T. solium* cysticercosis has on the affected population:
- Public and animal health decision makers should seriously take the disease into consideration.
- Financial and human resources are highly needed. Information and education campaigns should be implemented at a community level to educate the smallholder farmers and train local health and veterinary officers.
- To succeed in the implementation of prevention measures and reduce the impact of the disease a one Health approach, where medical doctors, veterinarians, technical agricultures, sociologists, researchers and policy makers communicate and cooperate is essential.

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