



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

Trevisan, Chiara; Praet, Nicolas ; Pondja, Alberto ; Assane, Younus ; Dorny, Pierre ; Magnussen, Pascal; Thamsborg, Stig Milan; Johansen, Maria Vang

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

¹Trevisan, C.; ²Praet, N.; ³Pondja, A.; ³Assane, Y.; ⁴Mejer, H.; ⁴Thamsborg, S.M.; ⁴Magnussen, P.; ⁴Johansen, M.V.;

¹ Faculty of Agriculture, University of Padua, Italy, ² Institute of Tropical Medicine, Antwerp, Belgium, ³ Faculty of Veterinary Medicine, Eduardo Mondlane University, ⁴ Section for Parasitology, Health and Development, Department of Veterinary Disease Biology, Faculty of Health and Medical Sciences, University of Copenhagen.

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



Figure 1: location of the study area

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)

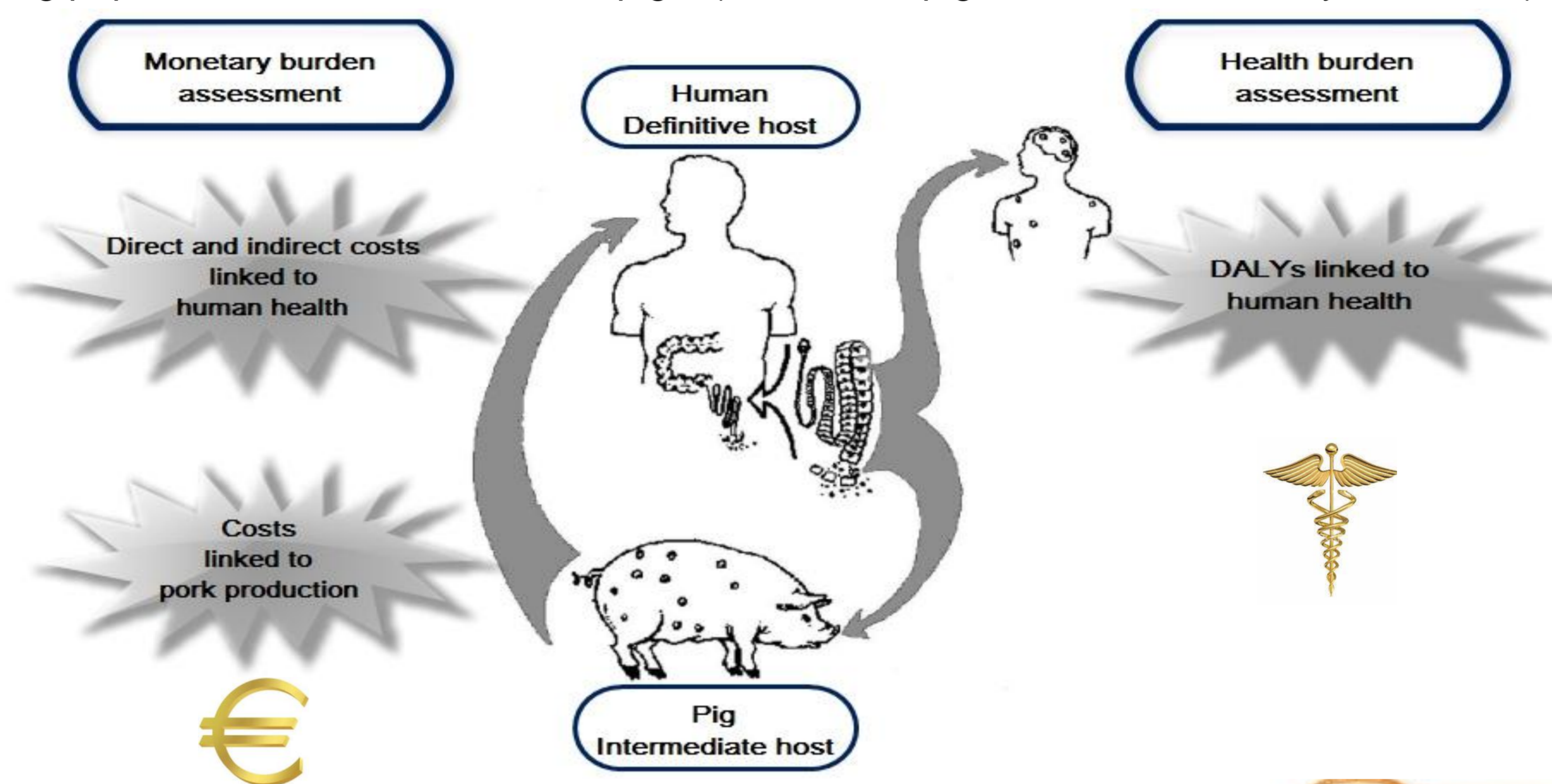


Figure 2: Monetary and health (DALY) components that should be included in the burden assessment of *T. solium* cysticercosis

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

Type of cost	Value in euro	95% CR	% of total costs
Hospital	559,766	304,382 - 914,526	52.9
Antiepileptic treatment	27,582	18,314 - 39,201	2.6
Medical doctor (public hospital)	24,995	22 - 131,755	2.4
Traditional healer	17,339	2,401 - 34,253	1.6
Inactivity	268,280	50,822 - 613,550	25.3
Pig losses	160,482	144,024 - 177,289	15.2
Total costs	1,058,445	671,138 - 1,570,446	100
Price per NCC-associated epilepsy case	41	24.30 - 62.0	-



Health expenditure per capita/year in Mozambique ≈ 16 euro

High impact for people living on less than 2 euro/day

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.



Figure 3: Decision tree for estimating the monetary burden of NCC in Angónia District

Table 2: Estimated annual number of DALYs lost due to NCC-associated epilepsy in Angónia District, Mozambique

Estimate	Number	95% CR	% of total DALYs
YLD	2,182	1,150 - 3,575	86
YLL	363	167 - 593	14
Total DALYs	2,545	1,495 - 3,951	100
DALYs per thousand persons	7.7	4.5-12.0	-

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