

Challenges to global control and/or elimination of NTDs: threats of animal reservoirs of human infections

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Successes achieved in the fight to eliminate guinea worm infections and advances in diagnostics and donation of safe and reliable medicines have led to optimism that some of the parasitic diseases grouped as the neglected tropical diseases (NTD) could be eliminated. These NTDs particularly those amenable to preventive chemotherapy (PC-NTDs) have been targeted for either elimination as a public health problem or elimination of transmission by the Year 2020. These are lymphatic filariasis, onchocerciasis, schistosomiasis, soil transmitted helminthiasis and trachoma. Various challenges are being posited as hurdles that could derail the attainment of the targets set. These are mostly related to the distribution of medicines (geographical and therapeutic coverages), the presence of systematic non-compliant individuals in the endemic populations and appropriate diagnosis to determine infection levels after years of drug administration.

The Guinea worm eradication goal, which paved the way that some parasitic infections could be eliminated or eradicated recently hit a snag when it was observed that dogs in Chad could serve as reservoirs of infection and potential source of new human infections. The observation of dogs as reservoir of infection for guinea worm, begs the question whether this is the only parasitic infection targeted for elimination that is erroneously considered as only infecting humans. However, it is not known if this occurs in other former endemic countries apart from Chad. Thus Guinea worm eradication will only occur when the infections in dogs are all cleared.

It is known that *Schistosoma japonicum* has cattle and water buffaloes among the reservoir hosts in China for

example. However in Africa, the schistosomes infecting humans *S. haematobium* and *S. mansoni* are believed not to have any other animal reservoirs other than the intermediate snail vectors. However, it has been reported in Senegal, Ghana and in an outbreak of urinary schistosomiasis in 2004 in Corsica, Italy that hybrids of *S. haematobium* and *S. bovis*, the cattle parasite, infect humans. These observations raise various questions, including the presence of the hybrid infections in cattle, the response of these hybrids to the currently available treatment drug, pathological impacts and hence the global elimination agenda.

The report in this issue by Ayinmode et al on the “Prevalence of potentially zoonotic gastrointestinal parasites in canine faeces in Ibadan, Nigeria” is another piece of information that emphasizes the need to search for potential animal reservoirs if we are to eliminate and/or eradicate these diseases. This potential will also be further magnified with increasing human-animal contact resulting from the former’s activities.

Professor Daniel Boakye PhD
Department of Parasitology
Noguchi Memorial Institute for Medical Research
College of Health Sciences
University of Ghana
Legon, Accra
Ghana
E-mail: Dboakye@noguchi.ug.edu.gh
yawbadjei@yahoo.co.uk

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