

*bancrofti*

*Wuchereria*

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A prospective entomological survey was conducted in four sentinel villages in central Nigeria from 1999–2002, to assess the impact of annual, single-dose, mass drug administrations (MDA), with a combination of ivermectin and albendazole, on the transmission of



zones (unpubl. obs.). The principal local

could be sampled during each morning's





Maiganga, Lankan and Gbuwhen were 82%, 78% and 63%, respectively.

## DISCUSSION

The high prevalences of infection and infectivity recorded in the mosquitoes at the start of the present study indicate that 5–7 years of annual mass treatments with ivermectin alone failed to interrupt transmission of *W. bancrofti* in the study area, where *A. gambiae* s.l. appears to be the main vector. In Burkina Faso, Kyelem *et al.* (2003) similarly reported that 5 years of semi-annual mass treatments with ivermectin alone (targetted at onchocerciasis) reduced but did not interrupt the transmission of *W. bancrofti*.

During the present study, the addition of albendazole to the ivermectin-based MDA led, after three rounds of treatment, to significant reductions in the prevalences of mosquito infection in three of the four sentinel villages. Annual mass treatment with ivermectin–albendazole therefore appears superior to annual ivermectin monotherapy for lowering or stopping the transmission of *W. bancrofti*, at least in rural areas of sub-Saharan Africa. The present results appear to represent the first entomological confirmation of the importance of albendazole in MDA-based programmes of LF control (Addiss *et al.*, 1997, 2004; Ismail *et al.*, 1998; Ottesen *et al.*, 1999; Dunyo *et al.*, 2000), although the present study has some limitations that need to be considered. Firstly, as there were no human-landing catches, it was impossible to determine

highest interval treatment coverage (86%) of the four sentinel villages. There was, however, no evidence of the mosquito infections that were detected clustering by compounds in any of the four villages (data not shown), indicating that the present data were not influenced by a few infected villagers who repeatedly refused treatment.

As the prevalence of mosquito infection is gradually reduced by repetitive rounds of MDA, entomological-impact monitoring (at least that based on traditional dissection methods) will become ever more difficult,



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