

Tracking the outbreak of *Brugia malayi* lymphatic filariasis at rural areas of two adjacent Districts in Perak, Malaysia

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ABSTRACT

Introduction: Lymphatic filariasis (LF) is a neglected tropical arthropod-borne disease caused by nematode parasites with potentially tremendous morbidity. Its prevalence peaked in 1950s with *Brugia malayi* (BM) became the prominent microfilaria in Malaysia. Since then, Malaysia has implemented LF control activities with observable reduction of microfilariae detection at LF endemic areas. In 2019, there was a reported microscopically confirmed LF case found incidentally during malaria routine surveillance activity in Batang Padang district with subsequent ascertained LF outbreak involving two adjacent districts in Perak. **Objective:** This paper aims to describe a comprehensive LF outbreak investigation, control and surveillance using an integrated vector management approach in Batang Padang and Muallim district, Perak, Malaysia. **Materials and Method:** A field investigation was carried out following the incidental finding of BM filariasis case at Kampong Sanding in Batang Padang and extended to Kampong Pisang in Muallim district. Epidemiological investigation included active case detection using BM rapid test and night blood survey, while entomological risk assessment was conducted to determine vector and receptivity. Control measures comprised of close contact tracing, chemotherapeutic treatments, and vector control, along with risk communication and continuous LF surveillance. **Results:** A total of eleven filariasis cases was detected with overall attack rate of 2.1%. Kampong Pisang in Muallim district had the highest cases (81.8%), while Kampong Sanding in Batang Padang was the extension of infection spread through an established epidemic linkage between the two localities. *Mansonia spp* was the main identified arthropod at both localities with high vector receptivity. Successful control was achieved through each single-case chemotherapy, vector control and continuous surveillance, with subsequent zero case detected over five years. **Conclusion:** Continuous LF surveillance for community in high receptivity areas is crucial to ensure the success of LF elimination in Malaysia through early case detection and treatment, hence reduces associated disease burdens.