India unlikely to meet goal of eliminating kala-azar by 2015, say experts

Sophie Cousins

Assam

Experts have cast doubt on whether India can reach its goal of eliminating kala-azar (visceral leishmaniasis) by the end of 2015 and have called for better surveillance.

In 2005 India signed a memorandum of understanding with Nepal and Bangladesh, undertaking to eliminate the neglected tropical disease by 2015. The goal is in line with the World Health Organization’s regional strategic framework (2011-2015) for elimination of the disease from its South East Asia region, which includes the three countries.

Elmination was defined as less than one case per 10 000 people at a district level.

However, recent research into the effectiveness of DDT spraying in Bihar—India’s poorest state, which has 70% of India’s cases of kala-azar—found that widespread vector resistance to DDT, combined with poor quality assurance of indoor residual spraying and limited surveillance, was hindering elimination efforts. The study, done with the Liverpool School of Tropical Medicine and the Rajendra Memorial Research Institute of Medical Sciences in Patna, Bihar’s capital, and published in the Proceedings of the National Academy of Sciences, found that in eight districts in Bihar only 7.4% of walls sprayed received the right quantity of DDT.1

Janet Hemingway, director of the Liverpool School of Tropical Medicine, said, “The sandflies that transmit VL [visceral leishmaniasis] are resistant to DDT, and there is a clear increasing trend of DDT resistance over time. Similarly, there is DDT resistance in the mosquitoes that transmit malaria in some of the VL endemic areas. As indoor residual spraying should control both insect species, then using an insecticide to which there is no resistance would be preferable.”

A C Dhariwal, head of India’s vectorborne disease control programme, said that he was aware of the declining effectiveness of DDT in killing sandflies. As a result, he said, synthetic pyrethroids, whose effectiveness had been proved, had been used in seven districts in Bihar for the second round of indoor spraying in July.

Suman Rijal, director of the Drugs for Neglected Diseases initiative (DNDi) in India, said that despite the government replacing DDT with synthetic pyrethroids, supervision and monitoring of spraying activities was crucial for quality control. “Unless surveillance efforts are strengthened and the control efforts are continued with a new strategy, increase in transmission and thus kala-azar cases may occur in the future,” he said. Rijal also referred to concerns about migrant workers from kala-azar endemic states such as Bihar and West Bengal who had migrated south to states such as Kerala for work and who could spread the disease.

He said, “Though currently the endemicity of kala-azar is limited to the states around the Ganges, there have been patients diagnosed and treated in states as far away as Delhi and Kerala. In addition to the delay in diagnosis, this, if unchecked, could also establish transmission in these new areas if the environment is suitable.”

Dhariwal said that the government remained vigilant and believed that it was on track to eliminate the disease.

Despite concerns, major progress has been made in combating the disease: in 2011 there were 25 222 cases of kala-azar and 76 deaths in Bihar, whereas in 2014 the numbers had fallen to 7615 cases and 10 deaths, according to the national vectorborne disease control programme.

Hemingway said, “The extensive DDT spraying and drug treatment programmes that have been done would have had some effect, but the impact could be increased by improvements in the programmes.” But she added, “It is not possible for them [the government of India] to reach the elimination goal by the end of the year. I would hope 2017 is achievable, with improved systems.”


Cite this as: BMJ 2015;351:h4117

© BMJ Publishing Group Ltd 2015