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Vector surveillance of Zika virus/JE in selected high risk areas of India

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Zika virus is an emerging mosquito-borne flavivirus that was first identified in Uganda in 1947 in Rhesus monkeys through a network that monitored yellow fever. It was later identified in humans in 1952 in Uganda and the United Republic of Tanzania. Outbreaks of Zika virus disease have been recorded in Africa, the Americas, Asia and the Pacific. From the 1960s to 1980s, human infections were found across Africa and Asia, typically accompanied by mild illness. The first large outbreak of disease caused by Zika infection was reported from the Island of Yap (Federated States of Micronesia) in 2007. In July 2015 Brazil reported an association between Zika virus infection and Guillain-Barré syndrome. In October 2015 Brazil reported an association between Zika virus infection and microcephaly. In 2017, Angola reported two cases of Zika virus. In 2017, the Ministry of Health and Family Welfare-Government of India (India), reported three laboratory-confirmed cases of Zika virus disease in Bapunagar area, Ahmedabad District, Gujarat, State, India. India needs to be particularly proactive on Zika spread since the mosquito that carries the virus actually thrives in the country. Zika virus is primarily transmitted to people through the bite of an infected mosquito from the *Aedes* genus, mainly *Aedes aegypti* in tropical regions. *Aedes* mosquitoes usually bite during the day, peaking during early morning and late afternoon/evening. This is the same mosquito that transmits dengue, chikungunya and yellow fever. Six zones of Delhi, India were selected for entomological surveys in transmission and non-transmission seasons. Study sites were selected on the basis of occurred dengue cases in Delhi and near about localities and these localities categorized into high, medium and low income groups on the basis of socioeconomic characteristics of the resident population. A total of 139 localities of Delhi were surveyed and larvae were collected from different breeding habitats like, cemented tank, bird pots, storage tank etc. A total of 2618 mosquitoes in 348 pools (10 mosquitos in one pool) were processed for the isolation of RNA and screened by RT-PCR (Reverse Transcriptase Polymerase Chain Reaction) and it was found that 10 localities in Delhi namely, Mahipalpur village, Raj Nagar (Dwarka), Laxmibai Nagar, Tagore Garden, Bagdola village (Dwarka), East Kidwai Nagar, Bharthal village (Dwarka), Madhu enclave (Najafgarh), Brijpuri (Shahdara) and Nehru vihar (R. K. Puram) were found positive for dengue virus but all were negative for Zika virus. Presently no specimen was found positive for Zika virus in Delhi, India.

Biography

Nasreen Akhtar has completed her PhD in Biotechnology in 2017 from Indira Gandhi National Open University in collaboration with National Institute of Malaria Research, Delhi, India. Currently she is working on Zika virus. She has 2 published papers in reputed national journals.

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