

The preferred breeding habitats for vector mosquitoes at construction sites

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ABSTRACT

Introduction: Construction sites are often blamed for dengue outbreaks in surrounding localities. The environment is suitable for immature mosquitoes to develop without predators and the convenience of female mosquitoes to feed on the exposed construction workers. Therefore, targeted vector prevention and control measures at construction sites are needed to break the chain of dengue transmission. **Objectives:** The purposes of this study were to identify the species of mosquitoes present at construction sites and the types of their preferred breeding habitats. **Materials and methods:** Nineteen construction sites in the Federal Territory of Kuala Lumpur were cross-sectionally surveyed for the presence of immature mosquitoes in the year 2018. The site surveillance was carried out on fully constructed buildings without installed windows or doors, which allows free passages for mosquitoes. All water-holding containers were inspected for the presence of immature mosquitoes. Types of water-holding containers were recorded and counted. The number of immature mosquitoes were counted from each positive container and then transported to the laboratory for species identification. **Results and conclusion:** A total of 1,643 immature mosquitoes were collected, comprising 1,287 larvae and 356 pupae. *Aedes aegypti* immature was the most abundant mosquito species (76%), followed by *Culex quinquefasciatus* (19%), and the *Aedes albopictus* (5%). The most preferred breeding site for *Ae. aegypti*, *Cx. quinquefasciatus*, and *Ae. albopictus* was the flooded floor, elevator shaft, and plastic container respectively. The average of the Container Index (CI) at the construction sites was 10.24%, which was higher than the threshold index (CI < 10%). This study has provided useful information to the health department regarding the preferred breeding habitats of vector mosquitoes at construction sites. Consequently, it contributes to effective and efficient vector prevention and control measures, thus saving time and manpower.