

Detection of insecticide resistance in aedes aegypti to organophosphate in Pulogadung, East Jakarta / Ambar Hardjanti, Isna Indrawati, Elita Donanti, Heri Wibowo, Zulhasril

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20442283&lokasi=lokal>

Abstrak

Dengue Hemorrhagic Fever (DHF) is a major public health problem in Indonesia. Jakarta is a capital city with the highest number of dengue patients. Among sporadic endemic areas in Jakarta, Pulogadung, a district of East Jakarta, is one of the endemic areas of this disease. The primary strategy for the control of DHF is based on reducing population densities of the main mosquito vector Aedes aegypti. Organophosphate is an insecticide that has been used for more than 25 years in dengue vector control program. The long term used and sublethal dosage of this insecticide can induce resistance. This laboratory study used microplate test and ELISA reader to determine the increase of alfa-esterase activity in A. aegypti larvae for detecting the resistance to organophosphate. Resistance pattern of A. aegypti to organophosphate insecticide in RW 01 Pulogadung was shown to be: 23% high resistant, 33% medium resistant and 44% sensitive. This result was highly related to local community behavior where we found that the use of insecticide spray by the people was very low (8.8% of the sample). We found that the people who used insecticide spray were only 8.8% of the sample. Therefore, organophosphate still can be used in this area to control the DHF in the future. Based on resistance pattern of A. aegypti to organophosphate insecticide in Rukun Warga (RW) 01 Pulogadung, we can conclude that organophosphate still can be used in this area to control the DHF in the future.

Deteksi Resistensi Aedes Aesgypti terhadap Insektisida Organofosfat di Pulogadung Jakarta Timur. Demam Berdarah Dengue (DBD) merupakan masalah kesehatan masyarakat di Indonesia. DKI Jakarta merupakan propinsi dengan jumlah penderita DBD terbanyak. Pulo Gadung Jakarta Timur merupakan salah satu daerah endemis DBD dan beberapa wilayah lainnya di DKI merupakan daerah sporadis penyakit tersebut. Strategi pengendalian utama DBD masih ditekankan pada pemberantasan vektornya yaitu Aedes aegypti (A. aegypti). Sampai saat ini

insektisida golongan

organofosfat adalah insektisida yang telah digunakan lebih dari 25 tahun untuk pengendalian vektor DBD.

Penggunaan

insektisida tersebut dalam waktu lama dan dosis subletal dapat menginduksi terjadinya resistensi. Pada penelitian ini

dilakukan uji microplate dengan ELISA reader untuk mengetahui resistensi serangga terhadap organofosfat.

Resistensi

diketahui dengan adanya peningkatan aktivitas enzim esterase non spesifik. Pola resistensi *A. aegypti* terhadap

organofosfat di RW 01 Pulogadung menunjukkan hasil sebagai berikut: 23% sangat resisten, 33% resistensi sedang dan

44% sensitif. Hasil ini berkaitan erat dengan rendahnya frekuensi penggunaan obat nyamuk semprot oleh masyarakat

(8,8% sampel). Berdasarkan pola resistensi *A. aegypti* terhadap organofosfat di wilayah Rukun Warga (RW) 01

Pulogadung, kami menyimpulkan bahwa organofosfat masih dapat dipakai dalam pengendalian DBD di wilayah tersebut.