

KAJIAN NYAMUK *Aedes Aegypti* SEBAGAI VEKTOR DENGUE DAN STATUS KERENTANANNYA TERHADAP INSEKTISIDA DI KECAMATAN WAY HALIM KOTA BANDAR LAMPUNG

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INTISARI

Latar Belakang: Nyamuk *Ae. aegypti* merupakan vektor utama penyakit DBD, sehingga penanggulangannya pun masih ditujukan kepada pengendalian nyamuk tersebut. Pengendalian dengan insektisida terus dilakukan namun kasus tetap ada. Hal tersebut diduga karena adanya transmisi transovarial dan populasi nyamuk yang mengandung virus didominasi oleh nyamuk yang resisten.

Tujuan Penelitian: untuk mengkaji keberadaan virus dengue (transmisi transovarial dan serotipe virus) serta status kerentanannya terhadap insektisida pada nyamuk *Ae. aegypti* di berbagai tipe permukiman di Kecamatan Way Halim.

Metode Penelitian: Jenis penelitian ini adalah observasional dengan rancangan berupa deskriptik dan analitik. Pemasangan ovitrap dilakukan di 3 Kelurahan. Telur yang terperangkap ditetaskan di laboratorium Parasitologi FK UGM, dikolonisasi, dan diuji. Subyek penelitian larva dan nyamuk *Ae. aegypti* generasi F1. Keberadaan virus dengue pada vektor diuji dengan metode Imunohistokimia (IHC) dan RT-PCR sedangkan untuk uji kerentanan menggunakan metode *CDC Bottle Bioassay*. Data dianalisis dengan *Chi-square*.

Hasil Penelitian: Hasil pemeriksaan IHC nyamuk *Ae. aegypti* di Kecamatan Way Halim menunjukkan adanya transmisi virus secara transovarial. Persentase positif virus dengue pada nyamuk di berbagai tipe permukiman menunjukkan ada perbedaan yang signifikan ($p < 0,05$). Pada permukiman Perumnas Way Halim dan Gunung Sulah terdeteksi serotipe virus DEN-1 dan DEN-4 sedangkan pada permukiman Way Halim Permai tidak terdeteksi virus dengue. Larva *Ae. aegypti* yang telah resisten (RR) terhadap temefos hanya ditemukan di permukiman Perumnas Way Halim sedangkan nyamuk yang resisten sedang (SR) terhadap malation dan resisten (RR) terhadap sipermetrin ditemukan pada semua tipe permukiman di Kecamatan Way Halim. Secara statistik, tidak ada antara tipe permukiman dan status kerentanan nyamuk terhadap insektisida ($p > 0,05$).

Kesimpulan: Nyamuk *Ae. aegypti* di Kecamatan Way Halim menunjukkan adanya transmisi transovarial dan serotipe virus DEN- 1 & 4. Larva *Ae. aegypti* di Kecamatan Way Halim sudah resisten (RR) terhadap temefos dan nyamuknya sudah resisten sedang (SR) terhadap malation serta resisten (RR) terhadap sipermetrin.

Kata kunci : *Ae. aegypti*, transmisi transovarial, serotipe virus dengue, status kerentanan

STUDY ON *Aedes aegypti* AS A DENGUE VECTOR AND ITS SUSCEPTIBILITY AGAINST INSECTICIDES IN WAY HALIM SUBDISTRICT, BANDAR LAMPUNG

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ABSTRACT

Background: *Ae. Aegypti* is the major vector of dengue fever, so that the prevention is still tended to the mosquito control. Controlled by insecticides have been conducted, but the dengue cases were still occurred. That was because of the presence of transovarial transmission and also mosquito populations that contain viruses dominated by mosquitoes that were resistant.

Objective: to know the presence of dengue virus (transovarial transmission and virus serotype) and determine the susceptibility of larvae and mosquito against insecticides in various types of settlements in Way Halim subdistrict.

Methods: This study used observational with the descriptive and analytic design. Ovitrap installation was carried out in 3 villages. The eggs trapped, hatched in the Parasitology FK UGM laboratory, colonized, and tested. The research subjects were larvae and *Ae. aegypti* F1 generation. The presence of dengue virus in vector tested by Immunohistochemistry (IHC) and RT-PCR methods, the susceptibility test was conducted based on *Bottle CDC bioassay*. Data were analyzed with Chi-square.

Results: The Result of IHC for detection dengue virus to *Ae. aegypti* in Way Halim subdistrict showed the presence of viral transmission vertically. The percentage of positive dengue virus in mosquitoes in various types of settlements showed significant correlation ($p < 0.05$). In the settlement of Perumnas Way Halim and Gunung Sulah detectable virus serotype DEN-1 and DEN-4, while in Way Halim Permai was not detected the dengue virus. Larvae *Ae. aegypti* have been resistance (RR) against temefos found only in Perumnas Way Halim, the mosquitoes have been moderate resistance (SR) against malathion and resistance (RR) against cypermethrin were found in all types of settlements in the Way Halim. Statistically, there was no significant correlation between the type of settlements and the susceptibility status of mosquito against insecticides ($p > 0.05$).

Conclusion: *Ae. aegypti* in Way Halim subdistrict showed transovarial transmission and the virus serotypes were DEN-1 and DEN- 4. Larvae *Ae. aegypti* in Way Halim subdistrict have been resistance (RR) against temefos and the mosquitoes moderate resistance (SR) against malathion and resistance (RR) against cypermethrin.

Keywords: *Ae. aegypti*, transovarial transmission, dengue virus serotypes, the susceptibility status