Monitoring Resistensi Nyamuk Aedes Aegypti terhadap Insektisida Sipermethrin 0,05% dalam Program Pengendalian Vektor di Bandara Soekarno Hatta tahun 2024 = Monitoring the Resistance of Aedes aegypti Mosquitoes to Cypermethrin 0.05% Insecticide in the Vector Control Program at Soekarno Hatta Airport in 2024

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Abstrak

Bandara Internasional Soekarno Hatta secara rutin melakukan pengendalian vektor dengan fogging setiap bulan untuk mematuhi International Health Regulation (IHR) 2005. Sejak tahun 2019, insektisida Sipermethrin untuk mengendalikan nyamuk. Namun, penggunaan berulang insektisida ini dapat menyebabkan nyamuk menjadi resisten. Penelitian ini bertujuan untuk mengidentifikasi resistensi nyamuk Aedes aegypti terhadap Sipermethrin di bandara tersebut. Studi menggunakan desain eksperimental post-test only with control group dan metode uji kerentanan sesuai dengan WHO. Sampel nyamuk berasal dari ovitrap di 8 titik pengamatan, dengan total 960 nyamuk digunakan untuk pengujian. Nyamuk betina berumur 3-5 hari yang kenyang gula dipaparkan selama 5, 10, 15, 20, 30, 40, 50, 60 menit dan pengamatan 24 jam dengan Sipermethrin 0,05%. Hasilnya menunjukkan bahwa pada 5 menit tidak ada kematian, namun kematian meningkat seiring dengan durasi paparan: 10 menit (16%), 15 menit (30%), 20 menit (56%), 30 menit (63%), 40 menit (70%), 50 menit (81%), 60 menit (92%), dan setelah 24 jam (93%). Hasil akhir menunjukkan bahwa nyamuk Aedes aegypti di Bandara Soekarno Hatta memiliki status "Terduga Resisten" terhadap Sipermethrin 0,05%.

.....Soekarno Hatta International Airport routinely conducts vector control through monthly fogging to comply with the International Health Regulation (IHR) 2005. Since 2019, they have used Sipermetrin insecticide to control mosquitoes. However, repeated use of this insecticide can lead to mosquito resistance. This study aims to identify the resistance of Aedes aegypti mosquitoes to Sipermetrin at the airport. The study employed a post-test only with control group experimental design and vulnerability testing methods in accordance with WHO guidelines. Mosquito samples were collected from ovitraps at 8 observation points, with a total of 960 mosquitoes used for testing. Female mosquitoes aged 3-5 days, fed with sugar, were exposed to Sipermetrin 0.05% for durations of 5, 10, 15, 20, 30, 40, 50, 60 minutes, and observed after 24 hours. Results showed no mortality at 5 minutes, but mortality increased with exposure duration: 10 minutes (16%), 15 minutes (30%), 20 minutes (56%), 30 minutes (63%), 40 minutes (70%), 50 minutes (81%), 60 minutes (92%), and after 24 hours (93%). The final results indicate that Aedes aegypti mosquitoes at Soekarno Hatta Airport are "suspected resistant" to Cypermethrin 0.05%.