

Efektivitas Larvasida Infusa Daun Sirih (*Piper betle*, Linn.) Terhadap Mortalitas Larva Nyamuk *Aedes aegypti*

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Intisari

Latar Belakang. Indonesia menempati peringkat teratas untuk kasus Demam Berdarah Dengue di kawasan Asia Tenggara. Penanggulangan yang tepat seperti pengendalian vektor merupakan salah satu cara untuk mengurangi angka tersebut. Abate (temephos) dilaporkan di beberapa negara telah mengalami resistensi terhadap nyamuk *Aedes aegypti*. Daun Sirih (*Piper betle*, Linn) memiliki kandungan minyak atsiri, saponin, alkaloid dan tannin yang diharapkan memiliki potensi sebagai larvasida nyamuk *Aedes aegypti*. **Tujuan.** Mengetahui efek larvasida dan konsentrasi optimum infusa daun sirih yang efektif untuk membunuh larva nyamuk *Aedes aegypti*. **Metodologi.** Penelitian ini merupakan penelitian eksperimental dengan metode *Post Test Only Control Group Design*. Larva *Aedes aegypti* yang digunakan adalah larva yang telah mencapai instar III/IV, dibagi menjadi 7 kelompok uji yaitu kelompok kontrol positif (abate 10 mg/ 100 mL), kontrol negatif (aquades), kelompok perlakuan infusa daun sirih, 4 mL/100 mL, 5 mL/100 mL, 6 mL/100 mL, 7 mL/100 mL dan 8 mL/100 mL. Setiap kelompok berisi 10 larva dan perlakuan diulang sebanyak 4 kali. Parameter yang diamati adalah jumlah larva yang mati dalam 24 jam. Data diolah menggunakan uji *One Way Anova* melalui SPSS 21 dan dilanjutkan dengan uji *Post Hoc Least Significant Difference (LSD)*. **Hasil.** Persentase kematian larva pada konsentrasi 4 mL/100 mL sebesar 72,5%; 5 mL/100 mL sebesar 80%; 6 mL/100 mL sebesar 82,5%; 7 mL/100 mL sebesar 90% dan 8 mL/100 mL sebesar 92,5% dengan nilai $p = 0,022$. **Kesimpulan.** Infusa daun sirih (*Piper betle* Linn) memiliki efek larvasida terhadap larva nyamuk *Aedes aegypti* dengan konsentrasi optimum pada 7 mL/100 mL hingga 8 mL/100 mL.

Kata Kunci: *Aedes aegypti*, daun sirih, mortalitas.

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Larvicidal Effectiveness of Betel Leaves (*Piper betle* Linn.) Infusa Against Mortality *Aedes aegypti* Larvae

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Abstract

Background. Indonesia was a country with the most cases of Dengue Hemorrhagic Fever in South East Asia. The appropriate countermeasures such as vector control is a other method to reduce the incidence. Abate (temephos) was reported in any countries have resistance against *Aedes aegypti*. Betel leaves (*Piper betel* Linn) is contains essential oil, saponin, alkaloid and tannin can be expected as larvacidal effect to *Aedes aegypti* larvae. **Objective.** To know larvacidal effect and optimum concentration of Betel leaves infusa is effective for killing mosquito larvae of *Aedes aegypti* **Methodology.** This research is experimental research with *Post Test Only Control Group Design* method. *Aedes aegypti* larvae used larvae which have developed into instar III/IV, divided into 7 groups, positive control groups (abate 10 mg/100 mL), negative control groups (aquadest), betel leavess infusa groups, 4 mL/100 mL, 5 mL/100 mL, 6 mL/100 mL, 7 mL/100 mL and 8 mL/100 mL. The each groups contains 10 larvae and it's repeated 4 times Parameters measured were the number of dead larvae in 24 hours. Data processed with One Way Anova test by 21th SPSS and continued with *Post Hoc Least Significant Difference (LSD)* test. **Result.** Percentage of larvae mortality in 4 mL/100 mL infusa concentration is is 72,5%; 5 mL/100 mL is 80%; 6 mL/100 mL is 82,5%; 7 mL/100 mL is 90 % and 8 mL/100mL is 92,5% with P value is 0,022. **Conclusion.** Betel leaves (*Piper betle* Linn) infusa have larvacidal effect against larvae of *Aedes aegypti* mosquitos and optimum concentration is at 7 mL/100 – 8 mL/100 mL.

Keywords: *Aedes aegypti*, betel leaves, mortality

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