

**EFFECTIVENESS OF OVITRAP TOOL MODEL  
YELLOW LIGHT WITH WHITE WATER MODIFICATION  
SINDANG KELINGI DISTRICT IN 2021**

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**ABSTRACT**

Indonesia is a tropical area which is an excellent place for mosquito breeding, because the temperature, weather, and seasons in Indonesia are very supportive in the mosquito breeding process, so that the mosquito population becomes high and very dangerous for human life, the existence of vectors that are detrimental to human life, because Mosquitoes are vectors that cause and transmit diseases in human life. To control the mosquito population, it is necessary to eradicate it by reducing the mosquito population.

This study aims to determine the effectiveness of the yellow light ovitrap model with a modified water bottle, in the intervention group and the control group. Observational research, cross sectional study design. Survey of mosquito locations on the terrace of the house. The survey data were analyzed using the chi-square test. The results of Chi-square analysis obtained P value = 0.08 > 0.05. So Ho is accepted and Ha is rejected, which means that there is no statistically significant relationship between the yellow light ovitrap and the modified water bottle. does not rule out the possibility of 2.33 times being found trapped mosquitoes

Keywords: Modeli, yellow light Ovitrap and mosquitoes.

**Introduction**

Indonesia is a tropical area which is an excellent place for mosquito breeding, because the temperature, weather, and seasons in Indonesia are very supportive in the mosquito breeding process, so that the mosquito population becomes high and very dangerous for human life, the existence of vectors that are detrimental to human life, because Mosquitoes are vectors that cause and transmit diseases in human life. To control the mosquito population, eradication needs to be done by reducing the mosquito population, with the effectiveness of the yellow light ovitrap device model with modification of white water, researchers used it as a mosquito trap tool on the terrace of the house that was installed at night.

This study aims to determine the effectiveness of the yellow light ovitrap model, with a modified water bottle, in the intervention group and the control group. The research location is on the terrace of the house,

**Methods**

Observational research, cross sectional study design. Survey of mosquito locations on the terrace of the house. The survey data were analyzed using the chi-square test. This study uses a quasi-experimental design, with a post-test only control group design, namely there is an experimental group and a control group. The experimental group was given X1 treatment and the control group was not given treatment (Nursalam, 2008)

Research Hypothesis

The hypotheses in this study include:

1. Ho: The yellow light ovitrap model is more effective with a modified bottle filled with water
2. Ha : The yellow light ovitrap model is not effective with a modified bottle filled with water

## Result and Discussion

### Research result

The results of Chi-square analysis obtained P value =  $0.08 > 0.05$ . So  $H_0$  is accepted and  $H_a$  is rejected, which means that there is no statistically significant relationship between the yellow light ovitrap tool and the modified bottle filled with water. , it is possible 2.33 times to find trapped mosquitoes

Table 1. The effectiveness of the yellow light ovitrap model with a modified bottle filled with water, in the intervention group and the control group on the terrace of the house

Number	Modification	Effectiveness						P	OR	CI (95%)	
		Yellow Light		No Light		Total				Lower	Upper
		F	%	F	%	F	%				
1	without water	5	13.9	2	5.61	7	9.7	0.233	2.742	0.496	15.17
2	Water	31	86.1	34	94.4	65	90.3				
Total		36	100	36	100	72	100				

Based on Table 1, it is known that almost 34 mosquitoes (94.4%) were trapped in the ovitrap model without a lamp, a modified bottle filled with water. Based on Chi-square analysis, the P value =  $0.233 > 0.05$ . So  $H_0$  is accepted and  $H_a$  is rejected, which means that there is no statistically significant relationship between the ovitrap tool without a lamp, a modified bottle filled with water.

### Conclusion

In the ovitrap model without lights, modify the bottle containing water, where mosquitoes want to put their eggs in a bottle filled with white water.

Botol Plastik Mineral



Gambar.1 Pemotongan Botol Plastik

Botol Ovitrap



Gambar 2 ilustrasi nyamuk terperangkap

### Suggestion

The Health Office is expected to be able to disseminate information to the public regarding the use of ovitrap as an alternative in controlling the *Aedes aegypti* mosquito vector, by only using plastic bottles used for drinking mineral water.

Further research needs to be done with a modified fermented ovitrap model based on the rainy or summer season and the transition season

## References

Arikunto Suharsimi (2002) Management Research. Jakarta. Rhineka Cipta.

Aji Rustam (2015) Identification of Surveys of *Aedes Aegypti*, *Culex* and *Aedes Albopictus* larvae in non-landfill environments inside and outside the home. (Researcher: Rustam Aji) Publisher: 2-Trick: Shoots for Health Research. Website Address: [www.2Trick.webs.com](http://www.2Trick.webs.com) .ISSN:2086-3098. Vol.V.Number:4, November 2015.hlm:223-229. National Journal

Aji Rustam, Muhammad Totong Kamaludin, Salni and Sriati (2016) Environmental factors and indices related to gengue vector larva in Rejang Lebong District in 2016. Publisher: Irjpeh. (International Research Journal of Public and Environmental Health).(Team: 1.Rustam Aji,2 .Muhammad Totong Kamaluddin, 3.Salni and 4.Sriati.Address : (URL/Linl:<http://dx.doi.org/10.15739/irjpeh.16.021>).ISSN:2360-8803.irjpeh.Vol.3( 7), pp. 162-166, july-2016). International Journals.

Aji Rustam and Chandra Buana (2017) Community Action Model by Level Density Larva of *Aedes Aegypti* Landfill Village in Batu Galing Sub District Curup Tengah. Publisher Ejbps (European Journal of Biomedical and Pharmaceutical Sciences). Web address: [www.ejbps.com](http://www.ejbps.com) URL: Link URL [https://www.ejbps.com/ejbps/abstract\\_id/2216](https://www.ejbps.com/ejbps/abstract_id/2216). and Indexing Details is available on <https://www.ejbps.com/ejbps/indexing>.ISSN:2349-8870.Vol.4.Issue.3.47-52-year:2017)SJIF Impact Factor 4.382. International Journals.

Aji Rustam (2017) The Effect of Fragrant Lemongrass on the Presence of *Aedes Aegypti* Larvae in Water Reservoirs. Publisher: JVK (Jurnal Vocational Health) web address-Link-URL:<http://ejournal.poltekkes-pontianak.ac.id/index.php/JVK>.ISSN:2442-5478. Vol.3.(1)(2017)p-390-393. National Journal.

Aji Rustam (2017) Effect of Boiled Carica Papaya Leaf on Death of *Aedes Aegypti* Larvae.(Researcher: Rustam Aji).Publisher:Journal of Epidemiology and Public Health.e-ISSN:2549-0273 (online).address wen-URL- Link: <https://doi.org/10.26911/jepublichealth.2017.02.03.05>.Vol.2(3)hlm :236-240. International Journals.

Aji Rustam (2019) The Effect of Papaya Sap Soaking Water on the Death of *Aedes Aegypti* larvae. Publisher: Health Journal Publisher: Multi Sciences Scientific Journal. Siti Khadijah Palembang. Vol. IX. No. 2 - December 2019.hlm: 108-115. ISSN: 9772087484DD4. e-Issn: 977-686-367005 .almt web. URL – LINK: <https://doi.org/10.52395/jkjims.v10i02298>

Aji Rustam (2019) The Role of DBD Coordinator Nurses and Jumantic Kader on the Management of Muaro Jambi District Type Desnsity in Puskesmas Perumnas of Rejang Lebong District and Health Center of Muaro Jambi District in 2019.Publisher:Poltekkes Kemenkes Bandung:Proceeding of the 2nd International Conference on Interprofessional Health Collaboration and Community Empowerment. Bandung. 5-6 December 2019. Web. URL-Link Address: <http://conference.juriskes.com/index.php/IC/article/view/94/59-ICIHCCE> Poltekkes Kemenkes Bandung. Vol.2.issue.1.pages.42.2019/12/15. International Journal Proceedings

Aji Rustam (2019) The Effect of Papaya Bark Soaking Water on the Death of *Aedes Aegypti* larvae in a water reservoir in Central Curup District. Publisher: Independent Healthy Journal-Poltekkes, Ministry of Health Padang. .web address-URL-Link:

<http://jurnal.poltekkespadang.ac.id/ojs//index.php/jsm>.Vol.14 No:1-Juni-2019. National Journal.

Aji Rustam (2020) The Effect of Ovitrap Equipment for Rice Straw Soaking Water and Oil Spread on Plastic Bottles on Trapped Mosquitoes in Rimbo Recap Village, South Curup District. Health Journal Publisher: Multi Sciences Scientific Journal. Siti Khadijah Palembang. Vol. 10. issue: 02. December -2020.Pages:144-150.published Dec 1, 2020 .ISSN: 9772087484DD4. e-Issn: 977-686-367005 .almt web. URL – LINK: <https://doi.org/10.52395/jkjims.v10i02298> .

Dep.Kes.RI.(2000) Prevention and Management of Dengue Fever. Complete Instructions Translated by Suroso, T. Etc. from Prevention Control of Dengue Haemorrhagic. WHO and the Ministry of Health.

Indonesian Ministry of Health (2017) Guidelines for the Prevention and Control of Dengue Hemorrhagic Fever in Indonesia. Directorate General of Disease Prevention and Control.

Ministry of RI (2013) Development of Anti-Mosquito Dispenser in Reducing Dengue Fever Mosquito Density. director. Jen. Disease Control and Environmental Health (Dir.Jend. P & PL) Jakarta.

Nursalam (2008) Concept and Application of Nursing Research Methodology (Thesis Guidelines, Theses and Nursing Research Instruments) Jakarta. Salemba Medika.

Rustam Erlina, Hasmiwati and Rati Gusti, (2016) Comparison of the Effectiveness of Various Ovitrap Media on the Number of Aedes spp Eggs trapped in Jati Village, Padang City. Andalas Health Journal.;5(2). Web: <http://jurnal.fk.unand.ac.id>.

Wahidah Asriati, Martini, and Hastiningsih Retno, (2016). The Effectiveness of Types of Attractants Used in Ovitrap as an Alternative for DHF Vector Control in Bulusan Village. Public Health Journal (e-Journal). Vol.4.No..1.January 2016 (ISSN) :2356-3346).wen:<http://ejournal-s.1.undip.ac.id/index.php/jkm>.

WHO (2001) DHF Case Management Guidelines Module. Jakarta. EGC.

Zubaidah Tien, Erminawati and Ratodi Muhamad, (2016) Modification of Ovitrap to Increase Trapping Power of Aedes sp Mosquito Eggs in Banjarbaru City. Health Police of the Ministry of Health Banjarmasin.

