

ABSTRACT

REPELLENCY DURATION OF VARIOUS CONCENTRATION OF CITRONELLA OIL (*Cymbopogon nardus L.*) AND DEET AGAINST *Aedes sp.* IN HUMAN

Thirza Christine Tetelepta, 2011

Tutor I : Dr. dr. Susy Tjahjani, M.Kes

Tutor II : Dra. Rosnaeni, Apt.

Aedes is a dengue hemorrhagic fever (DHF) vector that can be prevented by using DEET as a repellent. The long effect using DEET is create serious toxic. Thus, it is necessary to searching original safer material, such as natural citronella (*Cymbopogon nardus L.*) containing citronella oil. The aim of this study was to explore the effectiveness of various concentrations of citronella oil as *Aedes sp.* repellent compare to DEET15%. Laboratory experimental prospective research with Complete Randomized Design was conducted using 5 replication each 5 lower arm treatments : 25%, 50% and 100% of citronella oil, 70% alcohol as negative control, and DEET 15% as positive control according to Fradin and Day methode. Duration of repellency since each repellent application until first mosquito bite was recorded and this was analysed using ANOVA continued with Tukey HSD using $\alpha = 0,05$. The average duration of the citronella oil repellency effects were 40,44, 66,00, 101,18 minutes, at 25%, 50%, 100% concentration consecutively, while duration of DEET 15% repellency effect was 171,49 minutes, but only 0,02 minutes for negatives control group. There were highly significant difference between each group ($p < 0.01$). It was concluded that all of these citronella oil concentrations could be used as repellent against *Aedes sp.* but in weaker potency than DEET15%. The repellency effect was more with increasing concentration.

Key words: *Cymbopogon nardus L.*, Citronella oil, DEET, Repellent, *Aedes sp.*

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