

## **Preliminary Evaluation on the Larvicidal effect of crude extracts of *Ocimum Sanctum* against *Aedes aegypti* L**

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Mosquito vectors are responsible for spreading serious human diseases and *Aedes aegypti* is a vector for dengue and chikungunya. Investigations on botanicals are targeted for the identification of natural products for the control of mosquitoes to overcome resistance of vectors and to reduce harmful effects for human and environment. The objective of present study was the evaluation of mortality of third instar larvae *Ae. aegypti* L by extracts of leaves of *Ocimum Sanctum*. Sequential extraction of powder was done from non-polar to polar solvents namely, hexane, dichloromethane (DCM), ethyl acetate (EA), ethanol, methanol and water. Each filtrate was concentrated using rotary evaporator and kept at 4°C. Each extract was dissolved in mixture of acetone and DMSO at ratio of 1:1. A series of concentration of 50 to 250 ppm was prepared in water. 200ml of each concentration was taken and 20 larvae were exposed to it. The control test contained acetone and DMSO. Triplicate test was maintained at ambient temperature ( $29 \pm 2^\circ\text{C}$ ) and mortality was recorded at 24, 48 and 72 hours. Mortality of each test was subjected to log profit regression analysis to analyze 50% lethal dose ( $LD_{50}$ ). The bioassay results revealed that EA extract exhibited higher toxic effect ( $LD_{50} = 155\text{ppm}$ ) against *Ae. Aegypti* than other extracts.  $LD_{50}$  of DCM, hexane and methanol extracts were 160, 190 and 220 ppm respectively whereas  $LD_{50}$  of ethanol and aqueous extract were greater than 250 ppm. Solvent did not affect the growth of larvae. Mortality was increased with time after 24 hours for each test. The study suggests that the active ingredients of the extract can be responsible for the mortality of larvae.

Key Words: *Aedes aegypti*, *Ocimum sanctum*, Larvicidal effect, Sequential extraction