

## ***BACKGROUND:***

Control of the Anopheline mosquito vectors of malaria by use of insecticides has been shown to impact on both morbidity and mortality due to this disease. Evidence of insecticide resistance in different settings necessitates surveillance studies to allow prompt detection of resistance should it arise and thus enable its management. Possible resistance by *Anopheles arabiensis* mosquitoes from Mwea rice irrigation scheme in Central Kenya to insecticides in the four classes of insecticides approved by WHO for indoor residual spraying was investigated.

## ***METHODS:***

Susceptibility to DDT (an organochlorine), fenitrothion (an organophosphate), bendiocarb (a carbamate), lambda-cyhalothrin and permethrin (both pyrethroids) was tested using standard WHO diagnostic bioassay kits. Bioassays were performed on non-blood fed mosquitoes one- to three-day old. Knockdown was recorded every 10 min and mortality 24 h post-exposure was noted.

## ***RESULTS:***

Mortality 24 h post-exposure was 100% for all insecticides except for lambda-cyhalothrin, which averaged 99.46%. Knockdown rates at 10 min intervals were not significantly different between the Mwea population and the susceptible KISUMU strain of *Anopheles gambiae sensu stricto* control. The KDT50 and KDT95 values for the Mwea population were either lower than those for the control or higher by factors of no more than 2 for most comparisons and compared well with those of *An. gambiae sensu lato* categorized as susceptible in other studies.

## ***CONCLUSION:***

These results suggest that the Mwea population of *An. arabiensis* is susceptible to all the insecticides tested. This implies that vector control measures employing any of these insecticides would not be hampered by resistance.