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IRRITANT EFFECT AND TOXICITY OF CHLORFENAPYR AND COMPARISON OF IRRITANT EFFECT TO DIFFERENT INSECTICIDES IN SUSCEPTIBLE AND MULTI-INSECTICIDE RESISTANT LABORATORY STRAINS OF *ANOPHELES STEPHENSI*

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Abstract Malaria vectors have acquired widespread resistance to different classes of insecticides including two synthetic pyrethroids owing to the continuous use in public health and sometimes in other sectors. Hence, there is need to develop alternative strategies including use of new insecticides with novel mode of action for effective management of insecticide resistance and vectors. For effectivity of an insecticide, its toxicity as well as the intrinsic chemical nature of the molecule that seldom cause irritability is important, because the net toxic effect depends on these two aspects. So far, among the insecticides classes used in disease vector control, the irritability and toxicity values are in the order pyrethroids>DDT>malathion. Among the new class of insecticides that readily can be used to manage insecticide resistance including pyrethroid resistance is chlorfenapyr, a pyrrole class insecticide. We have conducted tests of irritability and test of intrinsic toxicity on DDT, malathion, deltamethrin, permethrin and chlorfenapyr against *Anopheles stephensi* susceptible and resistant lab strains. Chlorfenapyr molecule has shown late acting nature and least irritant effect against susceptible and resistant strains among the insecticides tested. Hence, this study demonstrates and further supports that chlorfenapyr being the least irritable compound allows more landing time to the vector to pick up lethal dose of insecticide and thus could be an ideal candidate for IRS especially for the management of multiple insecticide resistant disease vectors including pyrethroid resistance.