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Original Article

Evaluation of Five Local Formulated Insecticides against German Cockroach (*Blattella germanica* L.) in Southern Iran

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Abstract:

Background: The German cockroach, *Blattella germanica* L., is a serious household and public health pest worldwide. Control of this species has been very difficult to achieve. Toxicity of cypermethrin EC10%, deltamethrin EC5%, diazinon EC0.5%, lambda-cyhalothrin EC5% and Negon® (permethrin+propoxur oil liquid1%) commercial formulations were investigated against adult males of German cockroaches collected from four hospitals of Bandar Abbas City, southern Iran, during 2006. These insecticides have been used for cockroach control in this city.

Methods: The tests were carried out only on males by the glass jar contact method recommended by the WHO.

Results: Maximum mortality rates of 20, 35, 90, and 100% were obtained after one hour contact to label-recommended doses of cypermethrin, deltamethrin, lambda-cyhalothrin, diazinon and permethrin+propoxur insecticides, respectively. KT_{50} results were different from 5.68 min for permethrin+propoxur mixture to 240.37 min for cypermethrin. German cockroach showed < 80 per cent mortality using three pyrethroid insecticides.

Conclusion: It seems that the label-recommended concentrations of these insecticides were wrong and lower than WHO advised for cockroach control. For monitoring of resistance it is recommended to do more tests using the pure active ingredient of these insecticides.

Keywords:

German cockroach . Commercial insecticides . Resistance . Hospital . Iran

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