ABSTRACT

Mosquitoes are vectors of life-threatening diseases such as malaria, dengue, chikungunya, and Zika, which pose a severe threat to global public health. With increasing global interest in environmentally safe and non-toxic mosquito control strategies, ultrasonic mosquito repellers are gaining attention as potential alternative. These energy efficient devices produce high frequency sound waves which irritate and repel mosquitoes. This review highlights the working mechanism of ultrasonic mosquito repellers and briefly compares them with conventional methods such aschemical insecticides, bed nets, and biological controls. Some scientific studies highlight the limited efficacy of these devices by stating that mosquitoes are largely unaffected by the designed higher sound frequencies. Despite this, they have very less environmental impact compared to other chemical repellents which always cause water contamination and harm other non-targeted species. In addition, the low energy footprint making these devices a good option for indoor and outdoor environment. In contrast, potential concerns include, this device probably negatively interfere with the species that rely on sound for communication and navigation. Apart from this, the wide spread use could contribute to the accumulation of electronic waste if the devices are discarded after limited use. This review critically examines the potential of ultrasonic repellers as eco-friendly mosquito repelling tool based on available scientific evidence.