**Abstract**

Each year, mosquito-borne diseases infect nearly 700 million people, resulting to more than 1 million deaths. In this study, we evaluated the larvicidal, pupicidal, and smoke toxicity of Senna occidentalis and Ocimum basilicum leaf extracts against the malaria vector Anopheles stephensi. Furthermore, the antiplasmodial activity of plant extracts was evaluated against chloroquine (CQ) resistant (CQ-r) and CQ-sensitive (CQ-s) strains of Plasmodium falciparum. In larvicidal and pupicidal experiments, S. occidentalis LC50 ranged from 31.05 (I instar larvae) to 75.15 ppm (pupae), and O. basilicum LC50 ranged from 29.69 (I instar larvae) to 69 ppm (pupae). Smoke toxicity experiments conducted against adults showed that S. occidentalis and O. basilicum coils evoked mortality rates comparable to the pyrethrin-based positive control (38, 52, and 42 %, respectively). In antiplasmodial assays, Senna occidentalis 50 % inhibitory concentration (IC50) were 48.80 μg/ml (CQ-s) and 54.28 μg/ml (CQ-r), while O. basilicum IC50 were 68.14 μg/ml (CQ-s) and 67.27 μg/ml (CQ-r). Overall, these

botanicals could be considered as potential sources of metabolites to build newer and safer malaria control tools.