

***In vitro* antiplasmodial activity and toxicity assessment of some plants from Nigerian ethnomedicine.**

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Context: The emergence and spread of *Plasmodium falciparum*-resistant parasites to nearly all available antimalarial drugs pose a threat to malaria control and necessitates the need to continue the search for new effective and affordable drugs. Ethnomedicine has been shown to be a potential source of antimalarial compounds or source of template for the synthesis of novel antimalarial molecules.

Objective: The antiplasmodial activity and toxicity assessment of 30 plant extracts from eight medicinal plants identified in Nigerian ethnomedicine for the treatment of febrile illnesses were evaluated.

Materials and methods: *In vitro* antimalarial activity was evaluated using *Plasmodium falciparum* NF54 (sensitive to all antimalarial drugs) and K1 (chloroquine/pyrimethamine resistant) strains in the [³H]-hypoxanthine incorporation assay. Toxicity was determined against mammalian L6 cells using Alamar blue assay.

Results: The ethyl acetate extract of leaves of *Ocimum gratissimum* Linn. (Labiatae) and hexane extract of stem bark of *Trema orientalis* (L.) Blume (Ulmaceae) showed the highest antiplasmodial activity (IC₅₀ 1.8-1.93 µg/mL) against *P. falciparum* K1 strain but elicited low cytotoxicity (selective index >10). However, hexane, ethyl acetate or methanol extracts of leaves of *Terminalia catappa* Linn. (Combretaceae), *Jatropha curcas* Linn. (Euphorbiaceae), *Vitex doniana* Sweet. (Verbenaceae) and stem bark of *Vitex doniana* displayed antiplasmodial activity (IC₅₀ 2.3-16.9 µg/mL) with good selectivity (21–120) for malaria parasites.

Discussion and conclusion: The antiplasmodial activity of *Terminalia catappa* and *Vitex doniana* against *P. falciparum* K1 is being reported for the first time in Nigerian ethnomedicine and these plants could be potential source of antimalarial agents.

Keywords

[Plasmodium falciparum](#), [L6 cell](#), [cytotoxicity](#), [Terminalia catappa](#), [Vitex doniana](#)