ORIGINAL RESEARCH

Evaluation of the Potency and Safety of Model Clinic Polyherbal Anti-Malaria Tea

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ABSTRACT

Background: The Model Clinic Antimalaria Tea (AMT) is a product of the Herbal Clinic unit, Department of Pharmacognosy, University of Lagos. Its ingredients are the dried and powdered leaves of *Mangifera indica, Psidium guajava, Carica papaya* and *Cymbopogon citratus.*
Objective: The objective of this study is to evaluate the potency and safety of AMT.
Materials and methods: AMT was assessed for antimalarial activity against chloroquine-sensitive *Plasmodium bergheii* NK65 – infected mice using the suppressive and the curative test procedures at its half, full and double the prescribed dose (3.45, 6.90, and 13.80 mg kg^{-1} respectively). Chloroquine 5 mg kg^{-1} (CQ) was used as positive control while water was the normal control. The test parameters were parasitaemia, weight, PCV and temperature. AMT safety was assessed by acute toxicity test and microbial limit (using the pour plate method) and heavy metals limit test (using spectrophotometry).
Results: All the treated groups, except water, showed curative and suppressive antimalarial activity in the following order: CQ > AMT 13.80 mg kg^{-1} > AMT 6.90 mg kg^{-1} > 3.45 mg kg^{-1} which is dose-dependent. Oral administration of AMT at a dose of 4,000 mg kg^{-1} produced no noticeable deleterious effect. The microbial load and heavy metals content were within passable official limits. Arsenic and Mercury were not detected while Copper, Lead and Zinc occurred in 0.576 ppm, 0.108 ppm and 0.673 ppm respectively.
Conclusion: AMT has been shown to exhibit potent and dose-dependent anti-malarial activity against *P. bergheii* and it is also safe for consumption.

Keywords: Polyherbal; antimalarial; *Plasmodium berghei;* suppressive; curative; microbial load