

6TH ANNUAL BACTERIOLOGY AND PARASITOLOGY MEETING

September 13-14, 2017 Singapore

In-vitro antiplasmodial activity of cold and hot aqueous extracts of *Ochna schweinfurthiana* leaf

Babasoji P Omoniwa
University of Jos, Nigeria

Statement of the Problem: Malaria is a major public health challenge in developing countries. 109 countries were reported endemic to malaria in 2008 leaving 3.2 billion people, nearly half the world's population at risk of malaria. *Plasmodium falciparum* reduced sensitivity to ACTs has been reported in Asia and Africa. There is no suitable replacement for ACTs if parasite develops resistance. This highlights the urgent for new antimalarial drugs. This study evaluated the *in-vitro* antiplasmodial activities of cold and hot aqueous extracts of *Ochna schweinfurthiana* leaf on *P. falciparum*.

Methodology & Theoretical Orientation: *P. falciparum* was grown in a 96 well microtitre plate in the presence of RPMI 1640 culture media supplemented with Albumax II. The wells were divided into groups I-XIII: Group I (negative control), groups II, III, IV, V (positive control groups containing 10, 20, 40 and 80 µg/ml of Artemether/Lumefantrine respectively), groups VI, VII, VIII, IX and X, XI, XII, XIII (treatment groups containing cold and hot aqueous extracts at the respective doses). The microtitre plate was incubated at 37°C in an anaerobic jar and parasitemia taken after 24, 48 and 72 hours.

Findings: There was a significant reduction ($P < 0.05$) in parasitemia of extract-treated groups when compared to the negative control. The 10, 20, 40 and 80 µg/ml doses of the extracts gave a percentage parasite inhibition of 79.77, 81.86, 83.38 and 86.42% (cold extract) and 76.26, 78.54, 82.72 and 85.06% (hot extract) respectively which are significantly lower than 99.71, 99.81, 100.00 and 100.00% observed in the standard drug after 72 hours. However, Plasmodium lactate dehydrogenase (pLDH) activity in the extract-treated groups did not show any significant difference when compared with the Artemether/Lumefantrine group.

Conclusion & Significance: Aqueous extracts of *Ochna schweinfurthiana* leaf possess inhibitory activity against *P. falciparum* *in-vitro* and justifies its folkloric use as antimalarial.

sojiomoniwa@gmail.com

Notes: