Titilayo O Johnson et al., Medicinal Plants 2017, 6:5 (Suppl)
DOI: 10.4172/2167-0412-C1-012

In vitro biochemical evaluation of the antiplasmodial potential of extracts of *Phyllantus nivosus* leaf: A preliminary study

Titilayo O Johnson[1], G Istifanus[1], J G Peter[2], P K Dauda[2], J T Tanko[2] and J C Agunyi[1]
[1]University of Jos, Nigeria
[2]National Veterinary Research Institute, Nigeria

The genus *Phyllanthus* has a long history of use in herbal medicine and several species of the plant are touted as natural remedies for a variety of health problems. *Phyllanthus nivosus* is abundant in Nigeria where it is being used traditionally to treat malaria. However, little work has been done to validate these claims and explore its therapeutic potentials in drug research and development. The aim of this study was to evaluate the antiplasmodial potential of *Phyllantus nivosus* leaf as a possible source of antimalarial agent. Quantitative and qualitative phytochemical analysis, as well as *in vitro* antiplasmodial activity of the leaf was carried out. *Plasmodium falciparum* infected erythrocytes were incubated at 37 °C in RPMI 1640 culture media (modified with L-glutamine, sodium bicarbonate and HEPES) in the presence of varying concentrations (100 µg/ml, 50 µg/ml, 25 µg/ml, 12 µg/ml, 6 µg/ml and 3 µg/ml) of extracts of *Phyllantus nivosus* leaf. Same concentrations of Chloroquine, Artemether and Lumefantrine (ACT) were used as standards. Plasmodium Lactate dehydrogenase (pLDH) activity was determined after 72 hours as a measure of parasite growth. *Phyllantus nivosus* leaf was found to contain 4.80% w/w alkaloids; 8.72% w/w tannins and 7.92% w/w flavonoids. No significant difference (P> 0.05) was observed in percentage pLDH activity in the presence of 6, 12 and 50 µg/ml of ethanolic extract and 12, 25 and 50 µg/ml of hexane extracts when compared with ACT and Chloroquine. This study showed that *P. nivosus* leaf possess antimalarial activity and is therefore a possible candidate for antimalarial drug research.

Biography

Titilayo O Johnson has obtained her PhD from the University of Ilorin, Nigeria. She is a Senior Lecturer and Researcher at the Department of Biochemistry and African Center of Excellence in Phytomedicine Research and Development, University of Jos, Nigeria. She has more than 15 publications in reputable journals.

titijohnson2004@yahoo.com

Notes: