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Anti-oxidant, anti-inflammatory, anti-bacterial, total phenolic/flavonoids and cytotoxic activities of *Cordia africana*

Isa Adamu Imam¹, Saleh Malajiya Ibrahim Alhaji¹, Abubakar Ahmad¹, Dzoyem, Jean Paul², Adebayo Salman Adeniyi³, Musa Idris¹, Sani Usman Fulatan¹ and Daru Peret Alexandra¹

¹Ahmadu Bello University, Nigeria

²University of Dschang, Cameroon

³Tshwane University of Technology, South Africa

Cordia africana (Boraginaceae) is a tree used in traditional medicine to treat inflammatory related conditions and infectious diseases. This study was undertaken with the objectives of establishing the scavenging effect of extracts and fractions of *Cordia Africana* on the mediator of inflammation Lipoxygenases (LOX), and some non-biological free radicals such as 2,2-diphenyl-1-picrylhydrazyl (DPPH), the [2, 2-azinobis(3-ethylbenzothiazoline-6-sulfonic acid)] (ABTS) radicals and the Ferric ion reducing antioxidant power (FRAP). Antimicrobial activities, total phenolics/flavonoids and cytotoxicity of extracts of *Cordia Africana* were also evaluated. Extracts were obtained by maceration. Anti-inflammatory activity was determined using a LOX-inhibitor screening assay kit according to the manufacturer's instructions. A broth serial micro dilution method was used to determine the minimum inhibitory concentration (MIC) against, Gram-positive and Gram-negative bacteria. The antioxidant activity was determined using free-radical-scavenging assays, and the 3-(4,5-dimethylthiazolyl-2)-2,5-diphenyltetrazolium bromide reduction assay was used for cytotoxicity. All the extracts of *C. africana* inhibited LOX enzyme. The most active being the hexane extract of the leaves with IC50 value of 190±0.9 µg/ml. With the exception of the Methanol extract of bark of *C. africana*, all extracts had excellent to weak antimicrobial activity (MICs ranging from 16 to 1024 µg/ml) bacteria. All the extracts had free-radical scavenging activity (IC50 ranging from 5.20 to 314.30 µg/ml). There was a positive correlation between the antioxidant activity and the total flavonoid and total phenolic contents of *Cordia africana*. The cytotoxicity on Vero cells was reasonable to low with LC50 values ranging between 56.23 and 800 µg/ml. Our results support the use of *C. africana* leaves in traditional medicine to treat inflammatory related conditions and infectious diseases.

Biography

Isa Adamu Imam is currently working as Faculty of Medicine, Department of human Physiology, Ahmadu Bello University, Zaria, Nigeria.

adamuisaimam@gmail.com

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