

Antioxidant, Antimicrobial and Antidiabetic activity of Ethanol extract of *Calotropis gigantea*

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From National Conference on Natural Products as therapeutics, Medical Microbiology, Nanobiology and System biology: Current Scenario & Emerging Trends, 'NATCON-2014'.

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18-19 September 2014.

American J of Bio-pharm Biochem and Life Sci 2014 September, Vol. 4 (Suppl 1): P 42

ABSTRACT

Medicinal plants are important source of potentially useful for the development of novel chemotherapeutic agents. *Calotropis gigantea* is a common wasteland weed and known for various medicinal properties. This study investigates the qualitative and quantitative analysis of *Calotropis gigantea* in different extract of leaves, flowers and stems. The extract shows the presence many biologically active molecules. The amount of total phenols were analysed by using Folin-Ciocalteu assay, the amount of total flavonoids were analysed using aluminium chloride colorimetric assay and the amount of total tannins were analysed by using spectrophotometric methods. Ethanolic extract of flower showed highest amount of TPC. Antimicrobial effect of different extract from *C.gigantea* leaf, flower and stem was tested against *Gram positive bacteria* such as *B.subtillis*, *S.aureus* and *Gram negative bacteria* such as *E.coli*, *K.pneumoniae*, *P.aeruginosa* and *P.mirabilis*. The results confirmed that the Ethanol extract of *C.gigantea* flower showed more activity. The *in vitro* antioxidant properties of *C.gigantea* leaves, flowers and stems have been evaluated by various antioxidant assays, including 1, 1-diphenyl-2-picrylhydrazyl (DPPH), Ferric thiocyanate (FTC) method, Thiobarbituric acid (TBA) method, Superoxide Anion Radical scavenging assay, Hydroxyl radical scavenging activity, Metal chelating activity and Phosphomolybdenum assay. The present study suggested that the flower extract could be a potential natural source of antioxidants. The Antidiabetic effect of Ethanol extract from *Calotropis gigantea* flowers on RIN-5F Pancreatic cell line and normal Cell lines was evaluated by MTT assay. From the performed assay, the flowers shows greater activity on RIN-5F cell line and that means Ethanol extract of *Calotropis gigantea* flowers can be used as antidiabetic agents.