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IN VITRO ANTIOXIDANT ACTIVITY OF *FICUS HISPIDA* LEAVES

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ABSTRACT

Ficus hispida is a small but well distributed species of tropical fig tree, belonging to family Moraceae has been used traditionally in ayurveda system of medicine.The study investigates on methanol extract of *F.hispida* leaves for anti oxidant potential using DPPH radical scavenging method. The methanol extract showed maximum antioxidant activity. The concentration of 50 µg/ml of Methanol extract showed 40 % anti-oxidant activity in comparison with the standard drug.

Introduction

The plant *Ficus hispida,* linn belongs to family Moraceae by Taxonomical nomenclature[1]*Ficus hispida* is a small but well distributed species of tropical fig tree.It occurs in many parts of Asia and as far south east as Australia [2]The plant is found to use traditionally for the prevention of disease. A mixture of honey and the juice of these fruit is a good antihemorrhagic but the barks and leaves are used as an antidiarrhoeal, Antidiabetic and as cardioprotective. *F.hispida* are shrubs or small trees and leaves arrangement is opposite.The fruits are clustered on the tubercles of stem or in racemes.Bark contains tannins,waxes and leaves contain phenanthroindolizidine alkaloids,Oleanolic acid.Fruits are used as tonic,galactogogue and emetic[3]

MATERIALS AND METHODS

Plant material:

The plant material was collected in January 2016 from Andhra University campus, Andhra Pradesh, India and authenticated by Dr. Padal, taxonomist, Department of Botany, Andhra University, Visakhapatnam, Andhra Pradesh. The Voucher specimens 22226 were deposited in the herbarium, College of Pharmaceutical Sciences, Andhra University.

Extraction process:

The freshly collected plant was shade dried and powdered. The powdered materials were then subjected to Soxhlet extraction process with methanol. This process enable us in obtaining the chemical constituents which are soluble in the methanol.

Soxhlet Extraction:

The dried powdered materials of the plant were extracted successively three times with methonol. The extracts thus obtained were concentrated under vacuum at temperature of 43^{0}C by using rotary evaporator, dried completely, weighed and stored in a dessicator.

Method :

DPPH is a organic chemical compound abbreviation for 1,1-diphenyl 2-picrylhydrazyl which is a dark coloured crystalline powder composed of stable free radical molecules[4].

Principle:

In DPPH assay method is based on the reduction of alcoholic DPPH solution (dark blue in colour) in the presence of a hydrogen donating antioxidant converted to the non radical form of yellow colored diphenyl–picrylhydrazine.

Reagents:

1, 1- diphenyl-2-picrylhydrazyl (DPPH, 0.004%) solution: 4 mg of DPPH was dissolved in 100 ml of methanol and kept it overnight in dark place for the generation of DPPH radical[5].

Procedure:

The scavenging activity for DPPH free radicals was measured according to the procedure described by Braca et al., 2003. An aliquot of 3 ml of 0.004% DPPH solution in methanol and 0.1 ml of plant extract at various concentrations were mixed. The mixture was shaken vigorously and allowed to reach a steady state at room temperature for 30 min. Decolorization of DPPH was determined by measuring the absorbance at 517 nm. A control was prepared using 0.1 ml of respective vehicle in the place of plant extract/ascorbic acid.

The percentage inhibition activity was calculated as

$[(A_0-A_1)/A_0] \times 100$.

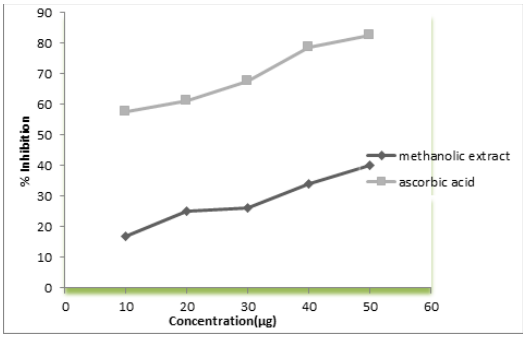
where A_0 was the absorbance of the control, and A_1 was the absorbance of the plant extract/ ascorbic acid.

The methanol extract of *Ficus hispida* were found to possess concentration dependent scavenging activity on DPPH radicals when compared with Ascorbic acid as a standard.

Results

Concentration dependent percent inhibition of DPPH radical by methanolic extract of *Ficus hispida* and Ascorbic acid in *invitro* studies

Conc (µg/ml)	10	20	30	40	50
% Inhibition of F.hispida methanolic extract	17	25	26	34	40
Ascorbic acid	57.4	61.2	67.6	78.5	82.4



Discussion

Methanol extract of *Ficus hispida* leaves had shown significant scavenging effect on DPPH free radical which increased with increase in concentration. The concentration of 50 µg/ml of Methanol extract showed 40 % anti-oxidant activity in comparison with standard drug.

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