Journal of Advances and Scholarly Researches in Allied Education
Vol. XV, Issue No. 6, August-2018, ISSN 2230-7540

Antioxidant Activity of *Porana Paniculata* (Convolvulaceae) – An Ethnomedically Important Plant

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Abstract – Porana paniculata (Convolvulaceae) is a much -branched extensive twiner of varied therapeutic value. The antioxidant activity of its leaf extract was evaluated. The extraction was carried out by maceration using water and ethanol as a solvent and then total flavonoid and total phenol content was determined by standard methods.

Key Words: Porana Paniculate, Therapeutic Value Antioxidant, Ethanol, Maceration.

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INTRODUCTION

Porana paniculata Roxb. (Convolvulaceae) possesses its significant use in the ayurveda among folklore but its phytopharmacological nature has unrevealed (Pullaiah *et. al.*, 1997). Pyrrolizidine alkaloids, and ergoline alkaloids and anthocyanins were also reported (Khare CP, 2007; Rastogi *et al*. 2007). In the present analysis, after comprehensive literature review, attempts have been made to systematically demonstrate Porana panicula's total flavonoid and total phenol content and antioxidant activity.

MATERIALS AND METHODS

Materials:

- Entire plant of *Porana paniculata*
- Ethanol
- Distilled water
- Petri dish
- Rota Evaporator
- Desicator
- Methanol
- Aluminium chloride
- Potassium acetate
- UV / visible spectrophoto meter
- Quercetin solution
- Folin Ciocalteu reagent
- Gallic acid
- Aqueous Na_2Co_3

Methods: For the present study, the entire plants were collected and 1000 gm of its powdered were extracted by cold maceration method with ethanol : water (3:2) mixture as solvent. The maceration proceeded for 72 hours after the contents of the Rota evaporator were filtered and condensed. A resinous greenish extract was obtained and stored in desiccator till further study (Kokate, 1994; Khandelwal, 2005)·

- **Total flavonoids determination:**

Aluminium chloride colorimetric method was used. 1.5 ml of methanol, 0.1 ml of 10 percent aluminium chloride, 0.l ml of 1 m potassium acetate and 2.8 ml of purified water is combined with the plant extract. The absorption of the reaction mixture was calculated at 415 nm using a double beam UV / visible spectrophotometer and was held at room temperature for 30 minutes. The calibration curve was prepared by planning a concentration of 12.5 to 100 mg/ml of quercetin solution in methanolol (Pourmorad et al. 2006)

- **Total phenol determination:**

It was calculated by the reagent Folin Ciocalteu. The diluted extracts of plants have been mixed with Folin Ciocalteu (5 ml, 1:10 water distilled) and Na2CO3 aqueous reagent (4 ml, 1 M). The mixtures were

permitted to stand for 15 minutes and colorimetry was used to calculate the total phenols at 765 nm. Use 0, 50, 100, 150, 200, 250 mg to plan the regular curve.

- **Antioxidant activity :**

In addition to 0.5 ml HAPP and HAIQ solutions at different concentration i.e. 20, 40, 60, 8o and 100 µg/ml, the scavenging potential of the natural radical DPPH antioxidants of the plant extract was calculated to achieve the safe, radical DPPH free radical. The mixture had been shaken and should stay in the dark for 30 minutes at room temperature. The emission in a spectrophotometer was then calculated at 517 nm. L - the normal usage of ascorbic acid. The percentage inhibition was calculated by using following formula -

% DPPH Scavenging activity = 100 x AC – AS/AC

where, AC = Absorbance of the control,

AS = Absorbance of reaction mixture.

RESULTS AND DISCUSSIONS

In 1000 gm of plant sample there was a broad green viscous matter of approximately 28,9 gm and a proportion of 2,89 percent w per w/w.

Total flavonoids of HAPP and HAIQ mg/ml of quercetine were find 59,86±0,54 while total phenols had a total phenol content of 33,34±0,37.

Antioxidant activity (DPPH Assay):

DPPH (diphenyl picryl hydrazine) radical scavenging activity of HAPP, HAIQ and Standard ascorbic acid are presented in Figure -l. In this assay, the antioxidant was able to reduce the stable radical DPPH to yellow 1, 1-diphenyl-1, 2-picryl hydrazine. The molecule of 2, 2-diphenyl -l - picryl hydrazine is characterized as a stable free radical by virtue of the delocalization of the spare electoral over the molecule as a whole. The DPPH free radical proton transfer reaction by a scavenger (A-H) causes absorption to be reduced to 517 nm, accompanied by a typical spectrophotometer collection in the visible region. The effect of antioxidants on DPPH is thought to be due to their hydrogen donating ability.

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