

## Antioxidant and Anti-Candida Activity of Selected Medicinal Plant: *In-vitro*

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### ABSTRACT

Medicinal plants are used in the treatment of different ailments since ancient times. The selected medicinal plants i.e. Terminalia Chebula and Thuja occidentalis have significant medicinal properties and are part of Complementary and alternative system of medicine (CAM). Terminalia Chebula is traditionally used for the treatment of various ailments, like asthma, gout, sore throat, vomiting, cough, diarrhoea, dysentery, bleeding piles, ulcers, heart and bladder disease while Thuja occidentalis has been used to treat bronchial catarrh, enuresis, cystitis, psoriasis, uterine carcinomas, amenorrhoea and rheumatism, warts and other viral diseases. The antioxidant and anti-Candida activity of ethanolic extract of Terminalia chebula and Thuja occidentalis is not well reported to date and the present study, was designed to evaluate the above activities in-vitro. The ethanolic extracts of selected plant was prepared to evaluate their biological activities. The antioxidant potential of selected medicinal plants i.e. Terminalia chebula and Thuja occidentalis in different concentrations was evaluated by estimating Total Phenolic Content (TPC), DPPH and ABTS radical scavenging assay and in-vitro anti-Candida activity was evaluated using agar disc diffusion and broth microdilution methods. The Terminalia chebula and Thuja occidentalis showed highest total phenolic content at 1.25 mg/ml  $462.01 \pm 2.60$  and  $85.75 \pm 0.70$  respectively, while the highest free radical scavenging activity was observed  $29.38 \pm 0.15$  and  $6.26 \pm 0.24$  equivalents to GA  $\mu\text{g/ml}$  respectively with DPPH and at  $21.75 \pm 0.01$  and  $5.5 \pm 0.07$  with ABTS assay respectively equivalent to GA  $\mu\text{g/ml}$ . The ethanolic extracts of Terminalia chebula and Thuja occidentalis were shown to significantly inhibit the growth of *C. albicans* at 3.90 mg/mL respectively. These results show that the ethanolic extracts of two native plants of India have potential as antioxidant, and as anti-Candida medicines, which make their exploration for utilization as a source of natural antioxidant and as a natural antifungal substance in pharmaceutical industries a possibility.

### BIOGRAPHY

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