

Phytochemical characterization, anti-inflammatory and *in vitro* anti-arthritis activity evaluation of hydro-alcoholic root extract of *Euphorbia tirucalli*

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As per Indian traditional medicinal system, *Euphorbia tirucalli* is used by the indigenous people of India to cure rheumatism, skin disorders, cough and other ailments. Present study was executed to characterize the roots of *Euphorbia tirucalli* to screen out the various phytochemicals for their pharmacological evaluation. The extractive value was found to be 8.12% from hydro-alcoholic extraction respectively through maceration process. The preliminary powder analysis was done in UV chamber and chemical treatment in order to characterize the plant. Total ash and moisture content were found to be 16.4% and 0.65% of powder of *Euphorbia tirucalli* root. Phytochemical analysis shows the presence of steroid and triterpenoid, alkaloid, tannin in hydro-alcoholic extract of *Euphorbia tirucalli* root (HAEETR). Thin layer chromatography (TLC) was performed with HAEETR and R_f was found as 0.682, 0.707 and 0.768 in n-butanol: acetic acid: water (7:2:1) mobile phase. Root extract demonstrated potential anti-inflammatory activity showing 85.45% and 98.35% protection from acute inflammation in carrageenan induced rat paw oedema model at 50 and 100 mg/kg dose. *In-vitro* anti-arthritis models, such as, inhibition of protein denaturation, and proteinase inhibitory actions were studied, with HAR at 250 µg/ml and results showed significant protection compared to standard drug aspirin. Current studies suggest that *Euphorbia tirucalli* extract could be a promising agent for the treatment of acute inflammation and arthritis, for which further experiments need to be done.

Pharmacognostic, phytochemical and physicochemical investigation of *Terminalia bellirica* (Gaertn.) Rox. leaf from Gujarat region

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Adulteration or substitution is nothing but replacement of original plant material with another plant material or any foreign substance intentionally or by mistake for one or another reason. Such adulteration can be found out if each plant has its own standardization parameters which will ensure quality control. Pharmacognostic studies are pivotal to ensure plant identity, lays down standardization parameters which will help and prevents adulterations. With this view, *Terminalia bellirica* (Gaertn.) Rox. Leaf was evaluated for its pharmacognostic, phytochemical and physicochemical properties. Fluorescence analysis of leaf powder was also done. Pharmacognostic studies showed the presence of anomocytic stomata, trichome, cluster and rosette type calcium oxalate crystals and starch granules. Preliminary phytochemical screening showed the presence of steroids, terpenoids, glycosides, flavonoids and phenolic compounds. Such data is useful in identification and standardization of plant drug and such standardization parameters will help in identifying the drug even in the powdered form and it can be easily distinguished and identified from adulterants.

Biography

Dishant Desai has completed his M.Sc. biochemistry from Department of Biochemistry, Saurashtra University, Rajkot and at present pursuing Ph.D. from the Saurashtra University. He is awarded with the meritorious fellowship funded by the University Grant Commission, New Delhi. He has presented many posters in national as well as in international level conferences