D. ABSTRACT

**Context:** The widespread use of herbal remedies and healthcare preparations, such as those described in ancient texts like the Vedas and the Bible, has been traced to the occurrence of natural products with medicinal properties. In fact, plants produce a diverse range of bioactive molecules, making them a rich source of different types of medicines which can be used to treat various diseases like. There are many natural herbs that can be used for above chronic diseases.

**Objective:** This project is carried out to screen some of the plants (*Cocculus hirsutus, Barleria prionitis and Brucea amarissima*) for their possible activities in treatment of such devastating diseases like inflammation, Arthritis, Diabetes, Cancer and CNS disorders and to systematically study of their pharmacognostical characteristics providing new insights about their pharmacognosy and pharmacological activities.

**Materials and methods:** Roots of *C. hirsutus*, leaves of *B. prionitis* and fruits of *B. amarissima* were investigated for pharmacognostic, preliminary phytochemical and various pharmacological activities. A detailed pharmacognostical and preliminary phytochemical evaluation of roots of *C. hirsutus*, leaves of *B. prionitis* and fruits of *B. amarissima* was carried out by microscopy and phytochemical tests. For screening of pharmacological activities, the powdered dried above parts of plants were extracted with methanol to prepare whole methanolic extract. These extracts were screened for various pharmacological activities like antioxidant activity, anticancer activity, antiarthritic activity, anti-inflammatory activity, analgesic activity, antihypertensive activity, anticonvulsant activity, anxiolytic activity and acute toxicity potential with the help of different invitro and invivo(animal) models.

**Results:** Methanolic extract of *B. prionitis* (MEBP) indicated the presence of alkaloids, glycosides, flavonoids, tannins terpenoids, steroids and phenolic compounds whereas methanolic extract of *B. amarissima* (MEBA) and *C. hirsutus* (MECH) was found to exhibit presence of flavonoids, carbohydrates and saponins.
Abstract

Acute toxicity study the extracts of MECH, MEBP and MEBA were performed to find out the test dose according to the Organization of Economic Co-operation and Development (OECD) guidelines-423. The extracts were to produce no mortality or any significant toxicity even at a dose of 3000 mg/kg (MECH and MEBP) and 2500 mg/kg (MEBA).

MECH showed significant antioxidant activity, antidiabetic activity, antiinflammatory activity, antiarthritic activity, anticonvulsant activity and analgesic activity while MEBP exhibited significant antioxidant activity, antidiabetic activity, anti inflammatory activity, antiarthritic activity, anticonvulsant activity, antihypertensive and analgesic activity. MEBA has significant antioxidant, anticancer and antidiabetic activity.

**Discussion and Conclusion:** Present studies indicates the therapeutic potential of *C. hirsutus, B. prionitis* and *B. amarissima* in cancer, arthritis, diabetes and inflammatory diseases respectively where the extracts have exhibited significant activity and confirming their traditional claims. Further the fractionations and isolation of active moiety can result in to new arena in the treatment of variety of diseases affecting billions of people of the world. Many herbal products containing either organic powder or extracts are being marketed for various ailments. Our study will provide for rational in use of herbs or their extracts for the ailments of which models have been studied during present study where extracts were found effective.

**Key Words:** Anticonvulsant, Anticancer, Anti-inflammatory, Brucea amarissima, Saponins