

Antidepressant-like activity of Embelin isolated from *Embelia ribes*

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Abstract

Various preparations of *Embelia ribes* are used in Indian traditional medicine as brain tonic and for treating mental disorders. The aim of the present study was to evaluate the major known active principle of *Embelia ribes* for possible antidepressant activity. Fractionation of the methanolic extract of dried powdered fruits (?) using column chromatography over silica gel afforded embelin. Experimental depression was induced by subjecting mice to tail suspension test (TST) and forced swimming test (FST) experimental models. Intraperitoneal administration of embelin (2.5 and 5 mg/kg) 30 min prior to induction of experimental depression resulted in dose-dependent reduction of immobility under both test conditions. The effect of embelin at the dose of 5 mg/kg in both experimental models was comparable with the standard antidepressant drug, imipramine administered at the dose of 15 mg/kg. It is concluded that *Embelia ribes* and its major bioactive compound, embelin, have therapeutic potential for managing depression.

Keywords: *Embelia ribes*; Myrsinaceae; embelin; antidepressant; imipramine; tail suspension test; forced swimming test

Introduction

Depression is a common disorder that is projected to become the second biggest contributor to the global health problem and disability by the year 2020 (WHO, 1999). There is now an ever increasing rate of depression-related death both by suicide and due to the associated physical/physiological disorders (Paykel, 2006). The primary symptoms of depression are unhappiness, low mood or reduced interest. Most of the today's antidepressant therapies have limitations due to either their inadequate efficacy over prolonged usage or unwanted side effects. Consequently, recent studies have given emphasis to the identification new drugs, preferably from natural sources, that mitigate depressive-like symptoms.