

Abstract

There is a growing interest in the pharmacological properties of medicinal plants, signaling their potential as valuable assets in contemporary healthcare. Due to increasing trends of inflation, there is a need of using medicinal plants for treatment of various ailments instead of using synthetic pharmaceuticals. This approach enhances patient knowledge and satisfaction with regard to effective pharmacological interventions and improved health outcomes.

Current study examined the antidepressant potential of *Ehretia laevis*, a plant specie, in female albino mice models. The study entailed comparing the effects of a methanolic leaf extract of *E. laevis* with the synthetic drug Fluoxetine. The methanolic extract was obtained via Soxhlet extraction and subsequently concentrated using a rotary evaporator. Depression was induced in the mice through a Chronic Unpredictable Mild Stress (CUMS) protocol spanning 15 days, effectively replicating depressive symptoms. Behavioral tests, including the forced swimming test (FST), open field test (OFT), and tail suspension test (TST), were employed to gauge immobility time as a metric for depressive symptoms. Measurements of body weights, brain weights and relative brain weights, histopathological analysis of CA3 region of hippocampus of mice brain, behavioral and biochemical analysis were carried out for assessment of depressive symptoms. The results demonstrated the significant antidepressant activity of the *E. laevis* plant extract, potentially attributed to the presence of phytochemicals. The combination of the plant extract with Fluoxetine underscores the prospect of synergistic therapeutic approaches for treating depression, promising advancements in the field of neuropsychopharmacology.

Keywords: pharmacological properties, antidepressant potential, *Ehretia laevis*, CUMS protocol, Behavioral tests, CA3 region of brain, neuropsychopharmacology.