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(57) Abstract :
The present invention relates to the development and evaluation of transdermal patches incorporating Lactuca sativa extract as a novel diuretic delivery system. Conventional oral diuretics often face challenges such as poor bioavailability, hepatic first-pass metabolism, and low patient compliance. To address these limitations, matrix-type patches were formulated using biocompatible polymers including HPMC, ethyl cellulose, and Locust Bean Gum, along with a plasticizer and permeation enhancer to ensure controlled and sustained drug release. The chloroform extract of Lactuca sativa was subjected to phytochemical screening to identify bioactive constituents such as alkaloids, flavonoids, saponins, phenolics, and terpenoids. The patches were designed for uniformity, flexibility, and stability to facilitate efficient transdermal delivery. This invention provides a non-invasive alternative to synthetic diuretics, potentially enhancing therapeutic efficacy, improving patient compliance, and offering a plant-based solution for fluid retention and hypertension management.

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