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(57) Abstract :
ABSTRACT The present invention relates a fast-dissolving tablet (FDT) formulation for vilazodone hydrochloride, designed to enhance bioavailability and improve patient compliance. Utilizing natural superdisintegrants derived from Lepidium Sativum seed mucilage and thymol as a sublimating agent, the formulation is optimized using a central composite design (CCD) to achieve rapid disintegration, minimal wetting time, and efficient drug release. The FDTs are prepared through direct compression and sublimation techniques, resulting in a porous structure that dissolves quickly in saliva, eliminating the need for water and facilitating ease of administration. This approach addresses the limitations of conventional oral tablets, such as poor bioavailability, delayed onset of action, and difficulty swallowing. The optimized formulation demonstrates stability, robustness, and industrial feasibility, making it a patient-friendly and effective delivery system for vilazodone hydrochloride. Comprehensive evaluation confirms its efficacy and potential to significantly improve therapeutic outcomes for patients with depressive disorders.

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