

# Formulation and Evaluation of Antifungal Ketoconazole Emulgel

Ajinkya Darade<sup>1</sup> and Ms. Dalvi A. M.<sup>2</sup>

Department of Quality Assurance  
Samarth Institute of Pharmacy, Belhe, Junnar  
ajinkyatdarade48@gmail.com

**Abstract:** Ketoconazole (KTZ) is a broad-spectrum antifungal agent and an imidazole derivative, commonly used to treat a range of fungal infections such as candidiasis, dermatophytosis, and dandruff. It works by disrupting the synthesis of the fungal cell membrane, making it effective against a wide variety of fungi. This research aimed to formulate ketoconazole into a topical emulgel to improve its effectiveness in treating localized fungal infections. Emulgels—gel-like emulsions—offer several advantages, including controlled drug release, enhanced skin penetration, and better formulation stability. In this study, different ketoconazole emulgel formulations were developed and evaluated through physical characterization, pH measurement, viscosity testing, in-vitro drug release studies, drug content analysis, and swelling index assessment. The goal was to optimize the formulation to ensure sustained and targeted delivery of ketoconazole at the infection site, ultimately leading to better therapeutic outcomes in the management of fungal infections

**Keywords:** Ketoconazole, Emulgel, Topical Drug Delivery, AntiFungal Activity

