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Formulation and Evaluation of Antifungal Clotrimazole Emulgel

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Abstract: *Clotrimazole, an imidazole derivative with broad-spectrum antifungal properties, is commonly used to treat Candida albicans infections. It works by inhibiting the synthesis of ergosterol, a key component of fungal cell membranes. This medication is widely used for conditions such as local candidiasis, oral thrush, and vaginal yeast infections. Emulgels, which are emulsions (either oil-in-water or water-in-oil) that have been gelled, are extensively used in both cosmetics and pharmaceutical preparations. These gels form a cross-linked network that encapsulates small drug particles, enabling controlled drug release. Additionally, their mucoadhesive properties extend the duration of medication contact. Emulgels have emerged as an intriguing topical delivery system due to their dual release mechanism involving both gel and emulsion, drawing the interest of pharmaceutical specialists for their potential as drug delivery vehicles for a variety of therapeutic compounds. Characterizing clotrimazoleemulgels involves physical examination, pH determination, viscosity testing, in-vitro release studies, drug content determination, and swelling index measurement. This study aimed to develop a clotrimazole emulgel formulation using carbopol 940 as the gelling agent.*

Keywords: Clotrimazole, Antifungal, Emulsion, Carbapol, Emulgel

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