

Herbal Innovations in Eczema Care: A Comprehensive Review of Formulation Development, Safety, and Efficacy

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Abstract: *Eczema, also known as atopic dermatitis, presents a significant challenge in clinical management due to its multifactorial etiology and variable clinical manifestations. Conventional treatments often focus on symptom relief and inflammation control, yet concerns regarding their long-term safety and efficacy persist. In recent years, there has been growing interest in exploring herbal therapies as adjunctive or alternative treatments for eczema management. This review aims to provide a comprehensive overview of the development and evaluation of topical herbal formulations specifically targeted at managing infectious eczema. Beginning with an introduction to eczema, encompassing its prevalence, underlying pathophysiology, and conventional treatment modalities, the review sets the stage for exploring the potential of herbal therapies. It delves into the significance of herbal treatments in eczema care, emphasizing their potential advantages such as efficacy, safety, and patient acceptability. The review then outlines the systematic approach to formulation development, encompassing the selection of herbal ingredients, optimization of base formulations, and rigorous stability testing. Safety evaluation strategies, including toxicological assessments, skin irritation potential, and allergenicity testing, are discussed to ensure the safety and tolerability of the herbal formulations. Efficacy evaluation involves assessing anti-inflammatory properties, antimicrobial activity, and conducting well-controlled clinical trials to determine their clinical efficacy and impact on patient outcomes. Through a comprehensive discussion and analysis, this review aims to elucidate the potential of topical herbal formulations as promising therapeutic options for managing infectious eczema, while also identifying areas for further research and optimization*

Keywords: Eczema, atopic dermatitis, herbal therapies, topical formulations, infectious eczema, anti-inflammatory, antimicrobial, clinical efficacy