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# Formulation and Evaluation of Herbal Anti-Dandruff Shampoo : A Comprehensive Review

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**Abstract:** *Dandruff remains one of the most prevalent scalp disorders affecting millions globally, causing discomfort and social distress. Conventional synthetic treatments, while effective, are frequently associated with adverse side effects including scalp irritation, hair loss, and dermatological sensitization. This comprehensive review examines the formulation methodology, evaluation parameters, and therapeutic potential of herbal anti-dandruff shampoos as sustainable alternatives to chemical-based preparations. The etiology of dandruff involves complex interactions between fungal pathogens (predominantly Malassezia species), scalp microbiota, sebum production, and immune responses. Contemporary herbal formulations integrate time-tested botanical ingredients such as neem (Azadirachta indica), shikakai (Acacia concinna), and tulsi with modern pharmaceutical principles to develop safe, efficacious, and eco-friendly products. This review synthesizes current research on herbal active pharmaceutical ingredients, phytochemical characterization methodologies, physicochemical evaluation parameters, antifungal testing protocols, and stability assessment frameworks. Analysis of published formulations demonstrates that carefully designed polyherbal shampoos achieve comparable or superior therapeutic outcomes to synthetic counterparts while maintaining excellent safety profiles and cost-effectiveness.*

**Keywords:** Herbal anti-dandruff shampoo; Medicinal plants; Phytochemical screening; Antifungal activity; Natural bioactives; Scalp disorders; Plant-based formulation



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