

Development and Evaluation of a Polyherbal Cold Cream Enriched with Neem, Licorice, Moringa, and Butea Monosperma Extracts for Acne Management

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Abstract: Acne is a common skin condition occurring in all age groups, which needs prolonged treatment [1]. Standard treatment for acne has side effects like skin dryness and irritation, creating a growing interest in herbal preparations as a safer option [3]. The present work is concerned with the preparation and assessment of an herbal cold cream supplemented with bioactive plant extracts—Neem (*Azadirachta indica*), Licorice (*Glycyrrhiza glabra*), and Moringa (*Moringa oleifera*), Butea monosperma (*Butea monosperma*) with reported antimicrobial, anti-inflammatory, and antioxidant activities.

The cream was prepared with an oil-in-water (O/W) emulsion system, to which beeswax, stearic acid, emulsifying wax, calamine, rose water, glycerin, and methyl paraben were added as excipients. 2 drops of lemongrass oil and 3 drops of clove oil were included for their antimicrobial and sebum-controlling properties. Physicochemical characterization of the formulation involved pH measurement, spreadability, viscosity, and stability against different conditions. The findings showed that the herbal cold cream had a smooth, even texture, good spreadability, and pH suitable for the skin (5.5–6.5). The formula was stable with no phase separation by centrifugation and freeze-thaw. The antimicrobial study showed strong inhibition of bacteria, attesting to the promise of this phytoactive-based cold cream in the treatment of acne. This research emphasizes the therapeutic potential of herbal extracts in cosmetics and propounds further clinical efficacy and long-term stability studies for commercialization purposes.

Keywords: Herbal cold cream, Acne control, Neem, Licorice, Moringa, Butea monosperma, Oil-in-water emulsion, Antimicrobial activity

