

The Efficacy and Safety of Different Topical Treatments for Acne Vulgaris: Systematic Review

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ABSTRACT

Acne vulgaris is a common skin condition, with various topical treatments available. This review aims to evaluate the efficacy and safety profiles of current topical acne treatments, including dapsone, topical tretinoin, and other commonly used agents, based on clinical studies. To review the efficacy and safety of different topical treatments for acne vulgaris, comparing them based on clinical outcomes such as lesion count reduction, Global Acne Assessment Score (GAAS), and adverse event profiles. A systematic review of randomized controlled trials (RCTs) and observational studies published between 2010 and 2024 was conducted. Data were extracted regarding the efficacy of topical agents in reducing inflammatory and non-inflammatory lesions, as well as the safety outcomes (e.g., adverse events, tolerability). A comprehensive analysis of topical treatment studies to compare its efficacy and safety with different combinations. The review included studies comparing topical treatments such as adapalene, benzoyl peroxide, clindamycin, dapsone, topical tretinoin, and others. Combination therapies like adapalene-BPO and clindamycin-BPO showed the most significant efficacy, particularly in reducing both inflammatory and non-inflammatory acne lesions. Topical dapsone (7.5% and 5%) was effective in treating inflammatory acne, with minimal adverse effects. Similarly, topical , topical tretinoin demonstrated good efficacy for moderate to severe acne, with minimal side effects. In terms of safety, the majority of treatments had mild adverse events, including skin irritation, dryness, and erythema. There were no significant differences in safety across most treatments, with some agents showing higher tolerability. Topical acne treatments, particularly combination therapies, demonstrate strong efficacy in managing acne vulgaris, with minimal adverse effects. Dapsone and , topical tretinoin are effective alternatives, particularly for patients who cannot tolerate oral treatments. Future research should focus on long-term safety, direct head-to-head comparisons, and larger population studies to refine treatment recommendations.

Keywords: Acne vulgaris, Topical treatments, Dapsone, Topical tretinoin, Efficacy and safety, topical treatment

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