

Thesis Title	The Efficacy of the 0.05% Topical <i>Andrographis paniculata</i> Gel on the Improvement of Mild to Moderate Inflammatory Acne
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ABSTRACT

Background: Andrographolide is a major bioactive phytoconstituent found in various parts of *Andrographis paniculate* (AP). Andrographolide exhibits the remarkable antibacterial activity against *P. acnes*, which also has been involved in sebum production , and anti-inflammatory effects by inhibiting NF-kappa B binding to DNA, thus reducing the expression of proinflammatory proteins, which further induces keratinocyte hyperproliferation. This extract is found to inhibit the formation of oxygen-derived free radicals, and significantly increases the activities of antioxidant defense enzymes. Therefore, it can treat inflammatory acne vulgaris effectively by several mechanisms.

Objective: To evaluate the efficacy of 0.05% topical AP gel in improving acne and its adverse effects.

Methods: A randomized, double-blind, placebo-controlled, split-face study was performed on 12 mild to moderate acne patients. Patients applied 0.05% AP gel on one side of the face and placebo on another side twice daily for 8 weeks. Acne lesion counts and adverse effects were evaluated every 2 weeks.

Results: There were significant differences in total inflammatory acne counts between AP gel and placebo at the 4th week ($p = 0.042$). No any adverse effect occurred.

Conclusion: Topical 0.05% AP gel can reduce inflammatory acne effectively. No any adverse effect occurred.

Keywords: Acne vulgaris, *Andrographis paniculata*, Anti-inflammatory effect, Topical gel, Andrographolide

