



ACNE, ROSACEA, AND RELATED DISORDERS (INCLUDING HIDRADENITIS SUPPURATIVA)

CLINICAL EFFICACY OF 0.5% TOPICAL MANGOSTEEN EXTRACT IN NANOPARTICLE LOADED GEL IN TREATMENT OF MILD TO MODERATE ACNE VULGARIS: A 12-WEEK, SPLIT FACE, DOUBLE-BLINDED, RANDOMIZED, CONTROLLED TRIAL

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Introduction: Acne vulgaris is the most common inflammatory sebaceous gland disorder in young adults. The resistant strains of *Propionibacterium acnes* (*P. acnes*) are of increasing concern in the treatment of acne.

Objective: This study aimed to evaluate the efficacy of 0.5% topical mangosteen extract in nanoparticle loaded gel (containing alpha-mangostin) compared with 1% clindamycin gel for treatment of mild to moderate acne vulgaris.

Materials and Methods: Patients aged 18-40 years were enrolled in this double-blinded, split-face, randomized, control study. The 2.5% benzoyl peroxide cream was applied to both sides of the faces once daily for 5 minutes and washed off. Each patient was randomly treated with the mangosteen fruit rind extract on one side and 1% clindamycin on another side of the face twice daily for 12 weeks. Treatment efficacies and side effects were evaluated on every follow-up.

Results: Twenty-eight patients, 24 female (85.7%) and 4 male (14.2%), mean \pm SD age of 25.14 \pm 5.8, with Global Acne Grading system (GAGs) score of 15.43 \pm 5.96 were included. Mangosteen fruit rind extract significantly showed significant 66.86% and 67.05% reduction of comedone and inflammatory lesions ($p < 0.001$) after 12-week treatment. The improvement on both treated sides significantly showed since 2 weeks after treatment, without statistical difference between 2 groups. Nonetheless, the mangosteen fruit rind extract revealed significantly better improvement of clinical severity, with no severe side effects.

Conclusions: The mangosteen fruit rind extract formation could be a phytopharmaceutical





medication for effective treatment of mild and moderate acne vulgaris treatment comparable to 1% clindamycin gel, with no severe side effects.

