

# Blue and red light combination LED phototherapy for acne vulgaris in patients with skin phototype IV.

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## Abstract

### *BACKGROUND AND OBJECTIVES:*

Blue light is effective for acne treatment, inducing photodynamic destruction of *Propionibacterium acnes* (*P. acnes*). This study was designed to investigate the efficacy of combined blue and red light-emitting diode (LED) phototherapy for acne vulgaris.

### *MATERIALS AND METHODS:*

Twenty-four patients with mild to moderately severe facial acne were treated with quasimonochromatic LED devices, alternating blue (415 nm) and red (633 nm) light. The treatment was performed twice a week for 4 weeks. Objective assays of the skin condition were carried out before and after treatment at each treatment session. Clinical assessments were conducted before treatment, after the 2nd, 4th, and 6th treatment sessions and at 2, 4, and 8 weeks after the final treatment by grading and lesion counting.

### *RESULTS:*

The final mean percentage improvements in non-inflammatory and inflammatory lesions were 34.28% and 77.93%, respectively. Instrumental measurements indicated that the melanin levels significantly decreased after treatment. Brightened skin tone and improved skin texture were spontaneously reported by 14 patients.

### *CONCLUSION:*

Blue and red light combination LED phototherapy is an effective, safe and non-painful treatment for mild to moderately severe acne vulgaris, particularly for papulopustular acne lesions.