

# An assessment of the efficacy of blue light phototherapy in the treatment of acne vulgaris

Sadia Ammad MBBS, DSc, MSc<sup>1</sup>, Maria Gonzales MSc<sup>1</sup>, Chris Edwards PhD<sup>2</sup>, Andrew Y Finlay MBBS<sup>1</sup>, Caroline Mills MRCP<sup>2</sup>

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## Summary

**Background** Acne vulgaris is a common skin condition that affects 8 out of 10 people. It varies from mild to severe, and different treatments target various aspects of the disease. *Propionibacterium acnes*, one of the culprits involved in the pathogenesis of acne vulgaris, is the main target of all major medical treatments used. Studies conducted in recent years have shown favorable effects within the visible light spectrum for the treatment of acne vulgaris.

**Objective** In this study, we have evaluated the use of intense blue light within the spectral range of 415–425 nm (peak 420 nm) in the treatment of acne vulgaris.

**Methods** Twenty-one patients with mild to moderate facial acne were treated with blue light phototherapy. All patients were given 14-min treatment sessions twice a week for 4 weeks. Acne severity was assessed using the Leeds Technique for grading and lesion counts. Disability was assessed using the Dermatology Life Quality Index (DLQI). In addition, standard digital and cross-polarized light photographs were taken and graded by a blinded evaluator. Visual analog scale (VAS) scores and cultures for *P. acnes* were carried out before starting the treatment and upon completion of the treatment.

**Results** Significant improvement was achieved in the Leeds Acne Grade ( $P = 0.001$ ). The inflammatory ( $P = 0.001$ ) and noninflammatory ( $P = 0.06$ ) lesion counts also improved significantly. A similar change was noted in the DLQI ( $P = 0.001$ ); a degree of significance was also achieved in the patients' and the investigators' VAS scores ( $P = 0.01$  and  $P = 0.001$ , respectively). *P. acnes* colony counts failed to show a significant decrease at the end of the treatment and remained almost constant ( $P = 0.660$ ).

**Conclusions** We believe that blue light does appear to have some role in the management of acne and may be beneficial for the treatment of a select group of mild to moderate acne patients.