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Treatment of vulgar acne with blue light: A systematic review

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Acne treatment is commonly performed with retinoids, such as adapalene, retinoic acid, isotretinoin, which have anti-comedogenic, anti-inflammatory, and comedolytic characteristics. The main disadvantage of most topical retinoids is related to cutaneous side effects. Acne usually improves after exposure to sunlight or artificially produced UV radiation. This research aimed to analyze the use of blue light for the treatment of inflammatory acne. A systematic literature review was carried out, whose research protocol followed the PRISMA recommendation, and randomized clinical trial studies that compared blue light with another intervention as a control were included in the sample. The search was carried out in the PUBMED and WEB of SCIENCE databases, combining the terms "photobiomodulation", "Acne", "LLLT", "Phototherapy", "LED" and "blue light". The methodological quality of the included studies was assessed using the Cochrane Collaboration Risk of Bias Scale. After excluding duplicates, the titles, and abstracts of 81 articles were evaluated, and 50 articles were selected for full reading, including 8 articles in the review at the end. For this purpose, articles were selected from 1990 to 2021. Eight randomized controlled clinical trials were analyzed using blue light and a comparative method. Most studies compared the use of blue light with benzoyl peroxide, and the others used another light source or placebo as a comparison. The included studies differed from each other regarding the protocol applied with blue light. The studies showed significant improvements in the general picture of acne with blue light, considering the number and size of lesions, and as for inflammation, red light showed better results. It is concluded that despite the great potential in its use in the treatment of acne, there is a need for more detailed tests on the effect of blue light in this treatment.

Recent Publications

1. Tan J., Bhate K. A global perspective on the epidemiology of acne. Br. J. Dermatol. 2015; 172:3–12.
2. Bergler-Czop B. The etiopathogenesis of acne vulgaris—What's new? Int. J. Cosmet. Sci. 2014; 36:187–194.
3. Mooney T. Preventing psychological distress in patients with acne. Nurs. Stand. 2014; 28:42–48.

Biography

Mara Lúcia Gonçalves Diogo is a Nurse, graduated in 1986 from the Wenceslau Braz College, Itajubá - MG - Brazil. She is a Occupational Nurse at the Catholic University of Santos in 1989- Santos- São Paulo - Brazil and Nurse Specialist in Dermatology in 2007 by the Brazilian Association of Dermatology Nursing - SOBENDE - São Paulo - Brazil. She completed her Master in Biophotonics Applied to Health Sciences at Universidade Nove de Julho - São Paulo - Brazil. She is a Doctoral student in Biophotonics applied to health sciences - Universidade Nove de Julho - São Paulo - Brazil.

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