

INVESTIGACIÓN - ENFERMERÍA

EFFECT OF BLUE AND RED LED IN INFLAMMATORY ACNE: RANDOMIZED CONTROLLED CLINICAL TRIAL

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Background Inflammatory acne is one of the leading reasons individuals seek dermatological consultations. Treating acne can be challenging, often requiring the use of topical and oral medications such as antibiotics and isotretinoin. These treatments raise concerns regarding issues like bacterial resistance, hepatotoxicity, and teratogenicity. As a result, laser and LED light therapies are

emerging as promising alternatives, particularly blue and red lights, which are already being utilized in clinical practice.

Objectives This study aimed to compare the effects of blue LED light, red LED light, and a combination of both on Grade II and III inflammatory acne. Specifically, the study sought to evaluate the impact of these light therapies on comedones, papules, and pustules, as well as to assess oiliness, erythema, lesion appearance, and overall acne severity.

Method 132 participants, aged 12 to 25 years, were randomized, divided into 4 groups. The study ended with 30 participants in each group, with a total of 120 participants. The treatments were administered using LED masks (Cosmedical, São Paulo, SP/Brazil), structured as follows: G1 - blue LED mask (420 nm); G2 - red LED mask (660 nm); G3 - combined blue and red LED mask (420 nm and 660 nm); and G4 - Control group receiving a 20% salicylic acid peel, a well-established acne treatment. All groups underwent treatment for 30 days. The LED mask groups received 12 applications, three times per week, with each session lasting seven minutes. The control group received two sessions, spaced 15 days apart. Evaluations were conducted using photographs taken on the first, fifteenth, and thirtieth days of treatment by a dermatologist who was blinded to the study.

Results All variables studied showed statistically significant differences between the moments of the research and in all groups studied. For the variable "pustule", the light group that presented a statistically significant difference was blue light. This difference was between moments 1 and 30 days. However, the groups treated with LED lights showed a higher overall improvement rate in all variables evaluated when compared to the control group, without serious side effects. It should be noted that the treatment with blue light resulted in a greater reduction of total lesions, comedones, papules and pustules.

Conclusion It is concluded that the blue and red LED light therapies, as described in this study, are safe and provide excellent results compared to the treatment with salicylic acid.

Palavras-chave: photobiomodulation; phototherapy; acne; led; laser.