The effect of preemptive fotobiomodulation with infrared LED to prevent pain, trismus and edema I impacted lower third molar teeth surgery: controlled clinical trials, double-blind, randomized.

Erika da Silva Mello, Anna Carolina Ratto Tempestini Horliana, Laura Caroline Diana, Leticia Viana dos Santos, Marta Cristina Dantas dos Santos, Rafaela Neves de Souza Santos, Vitória Gonçalves Gaspar, Kristianne Porta Santos Fernandes, Sandra Kalil Bussadori, Alessandro Melo Deana.

The impacted lower third molar teeth surgery is indicated to prevent cists and pericoronitis. The pain, edema, and trismus are frequently associated with surgery, and analgesics, anti-inflammatory, and physiotherapy are indicated. The photobiomodulation post-surgery is effective to reduce edema, trismus, and pain. The purpose of this study is to evaluate the preemptive use of infrared LED to prevent pain, trismus, and edema on conditioned orofacial tissues. This randomized, double-blind clinical trial, randomized, double-blind evaluated the impact of preconditioning the tissues involved on impacted lower third molar teeth surgery to prevent these unwanted effects. The participants were divided into two groups, and 1h before the surgery, the treated group received photobiomodulation with infrared LED 850nm, 8J, 80s, and the control group was used a similar device without irradiation. The participants were evaluated and received the corresponding treatment on the second and seventh days after surgery. After the second day, the treatment group demonstrated a significant pain reduction in relation to the placebo group (p = 0.006, Mann-Whitney), there was no significant change in trismus. The treatment group showed on the seventh-day post-surgery facial measurements statistically equal to pre-surgical values. This study demonstrated that the conditioning of the orofacial tissues involved in third molar surgeries using infrared LED with 850nm wavelength 8J, 80s, performed one hour before the surgical procedure, showed positive results in reducing postoperative pain.