

# **ANALYSIS OF PAIN AFTER ENDODONTIC INSTRUMENTATION OF MOLARS IN A SINGLE SESSION ASSOCIATED WITH PHOTOBIOMODULATION: A RANDOMIZED DOUBLE BLIND CONTROLLED CLINICAL STUDY**

NAME: Gláucia Gonçalves Abud Machado, Anna Carolina Ratto Tempestini Horliana, PhD  
University Nove de Julho, Brazil

## **ABSTRACT**

Randomized clinical trials conducted in recent years have shown that photobiomodulation modulates postoperative pain in endodontic instrumentation, especially in the first days after the procedure. Although the results are promising, there is still low quality of evidence regarding the best dosimetric parameter to be applied. The aim of this double-blind randomized controlled clinical study will be to evaluate the effect of photobiomodulation (PBM) in reducing postoperative pain after conventional endodontic treatment in maxillary molars. The sample will be composed of 58 participants endodontically treated in a single session and randomly distributed in PBM Group (n=29): conventional treatment + apical photobiomodulation (808 nm, 100mW power, 3J per point, 3mm<sup>2</sup> area, 3 points - two vestibular and palatine, total energy of 9J) and Control Group (n=29): conventional treatment + simulation of photobiomodulation. As the primary outcome of the study, postoperative pain will be evaluated 24 hours after instrumentation, with a visual analog scale (VAS). The secondary outcomes will be: pain, evaluated at 4h, 8h, 12h after the procedure; pain on palpation (buccal and lingual) and pain on percussion (vertical and horizontal) which will be analyzed 24h after the procedure; the amount of analgesics needed (paracetamol); and the impact of oral health on quality of life assessed by the OHIP 14 instrument.

Keywords: Photobiomodulation, Analgesia, Endodontic Treatment, Postoperative Pain.