

Study Protocol for the use of Photobiomodulation with Red or Infrared LED on Waist Circumference Reduction: a Randomized, Double-Blind Clinical Trial

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The search for non-invasive aesthetic procedures for localized fat reduction has gained attention. Some studies have shown that Photobiomodulation (PBM) can be used in body contouring. However, there is no standardization of the protocol. The objective of this study will be to compare the different light wavelengths when using PBM as a technique for the reduction of abdominal waist circumference. 174 patients will be recruited, and then divided into 3 groups: RED PBM; INFRARED PBM; and PLACEBO (*Sham*). The treatments will consist of eight sessions, twice a week, for four weeks. At each session, the participants will receive 30 minutes PBM (127 J/cm^2) and further, both groups will receive 30 min Aussie Current (4kHz, modulated at 10Hz, 40-60mA). The main outcome of this study will be waist circumference reduction. The secondary variables will be anthropometric data, lipid profile, liver function, changes in the local microcirculation, and the quality of life and self-esteem. The analyses will be performed at four stages of the research, D0, end of the eighth session, 15 days after the last session, and 180 days after the last session. This work will show the efficacy and the best wavelength for PBM when using for waist reduction. Since it will be expected that PBM release of triglycerides from adipocytes, Aussie current will act on the increase of β -oxidation. The control of lipid profile is important since the availability of triacylglycerol may affect the lipid profile in the blood, bringing consequences for the general health of the individual.

Biography

Marcelo Marreira is a nurse specialist in obstetric and gynecological nursing at the Abc School of Medicine. Master in Biophotonics Applied to Health Sciences by Nove de Julho University and PhD student in the same department. He is a professor in the nursing department at Nove de Julho University.