Effects of photobiomodulation on the prevention of the skin pressure injury in patients with a diagnosis of COVID-19: a randomized, controlled, and double blind clinical study protocol.

Authors: Ione Liz Paiotti (1,2), Cristiane Aparecida Betta(1,2), Anna Carolina R T Horliana (1), Raquel Agnelli Mesquita-Ferrari (1,3), Kristianne Porta Santos Fernandes (1).

1- Postgraduate Program in Biophotonics Applied to Health Sciences, University Nove de Julho (UNINOVE), São Paulo, SP, Brazil

2- Lydia Storópoli Hospital, São Paulo, SP, Brazil

3- Postgraduate Program in Rehabilitation Sciences, University Nove de Julho (UNINOVE), São Paulo, SP, Brazil

Abstract

Introduction: The high incidence of pressure injuries (PI) is considered a serious public health problem and a negative indicator of the quality of nursing care. **Objective:** This study aims to verify the preventive effects of the use of photobiomodulation (FBM) in areas more susceptible to the development of PI in patients hospitalized with COVID-19. **Methods:** This is a controlled, randomized, and blind clinical study including hospitalized participants with risk of developing PI according to the Braden scale. Participants will be randomized into 2 groups: Group 1 - Control (n=70) in which the hospital's standard operating procedures for the prevention of PI will be performed; and Group 2 - FBM (n=70) the same procedures as the group control and also FBM will be performed once a day, for 10 minutes in each of the 3 regions most commonly affected by PI, that is, sacral and calcaneal (bilaterally). The FBM will be performed using a plate with 132 LEDs of 660nm and 132 LEDs of 850nm (each LED has P=8 mW; E=4.89J, radiant exposure= 9.6 J/cm2; irradiance 16 mW /cm², 10 min). The incidence of PI will be evaluated every 48 hours after hospital admission for a period of 1 month or until hospital discharge if it occurs before this period. The time of onset of PI will also be evaluated; the possible correlations of anthropometric data measurements and incidence of PI. The data will be statistically evaluated.