Adjuvant effect of Photobiomodulation in the treatment of incontinence-associated dermatitis in adults – a blinded randomized clinical trial.

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**ABSTRACT**

Incontinence-associated dermatitis (IAD) is an inflammation of the skin that occurs as a result of urine or feces contact on the perineal or perigenital region in adults. Lesions are typically located in the convex regions covered by diapers. The perineal region is the most affected, bringing pain and discomfort to the patient. The prevention and treatment of IAD must essentially follow two interventions: the control of incontinence/dampness and the implementation of a structured regimen of perineal care, seeking results for the restoration of skin integrity. Therefore, the gold standard for the treatment of IAD is skin hygiene, moisture control, and the use of a skin protector to restore skin integrity. Photobiomodulation has been used with excellent results in restoring skin integrity in acute and chronic wounds, but so far it has not been tested for IAD. To evaluate the effect of Photobiomodulation in the treatment of incontinence-associated dermatitis in adults. A controlled, randomized, and blinded clinical study will be carried out on patients hospitalized in the Intensive Care sector, oncology, and coronary care unit of Hcor Associação Beneficente Síria. Patients who developed lesions that present erythema with intact skin and erythema with loss of continuity, resulting from IAD, will be included in the study. Participants will be randomly divided into 2 groups: Control group (n=39) - use of liquid protective film in spray + FBM simulation (placebo), Experimental group (n=39) - use of liquid protective film in spray + FBM. FBM will be performed with a 660 nm 100mW diode laser, 2 J per point, in 8 points and radiant exposure of 707 J/cm2. FBM will be applied once a day every 24 hours for 3 days in a row. Both groups will continue with standard daily skin care and diaper changes every 3 hours. The primary endpoint was chosen for the 7-day IAD lesion cure rate study. A photographic record of the lesion area and measurements will be performed using a disposable ruler with the patient in a lithotomous position on the days of the evaluations. For the classification and characterization of the severity of IAD, the *Ghent Global IAD Categorization* tool will be applied. In addition, the size of the area will be analyzed using ImageJ *software program*. For pain assessment, the visual analog scale will be used in conscious patients and the BPS scale in patients with cognitive impairment and who are intubated. In adults with cognitive impairment, periods of confusion and dementia, the Pain Assessment in Advanced Dementia- PAINAD scale will be used, which has pain intensity from 0 to 10. All outcomes will be evaluated at baseline, at 24 hours, 3 days, and 7 days.