

# Photobiomodulation Therapy Improves Quality of Life, Wound Healing and Pain Scores of Diabetic Patients from Brazilian Public Hospital

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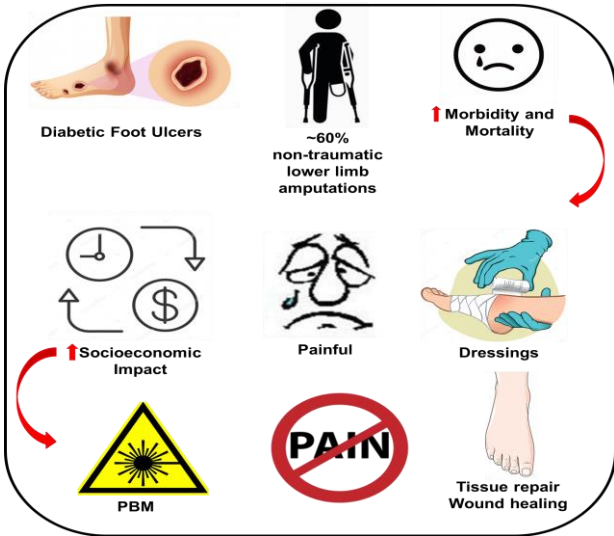
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## BACKGROUND AND AIMS



**Aims:** Evaluate PBM-effects on wound healing, pain and quality of life of diabetic patients from the University Hospital of USP/BR.

## METHODS

Transversal and Interventional study



CAAE Nº 85121318.20000.5467

Questionnaires

ICF

Pain screening:

BPI, DN4 and McGill

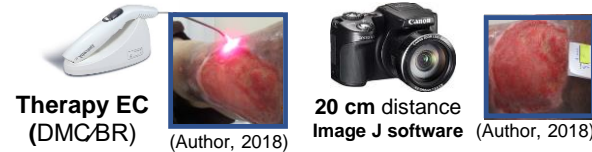
Quality of life:

HADS and  
Catastrophism

**Statistics:**

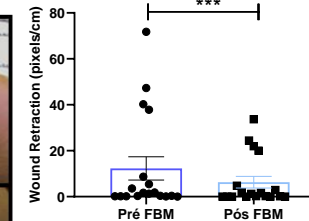
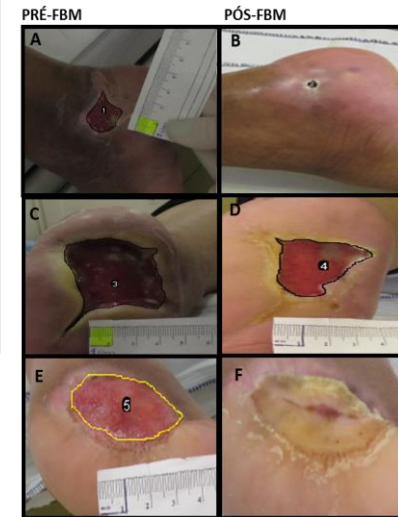
Wilcoxon test (mean±sem;p<0.05)  
Calculated by software IBM SPSS  
20 and GraphPad Prism V6.00

PBM Parameters	
Wavelength (nm)	660
Energy Density (J/cm <sup>2</sup> )	1.4
Power (mW)	100
Time (sec per point)	14
Spot size (cm <sup>2</sup> )	0,35
Frequency	Continuous 14 app/2x week



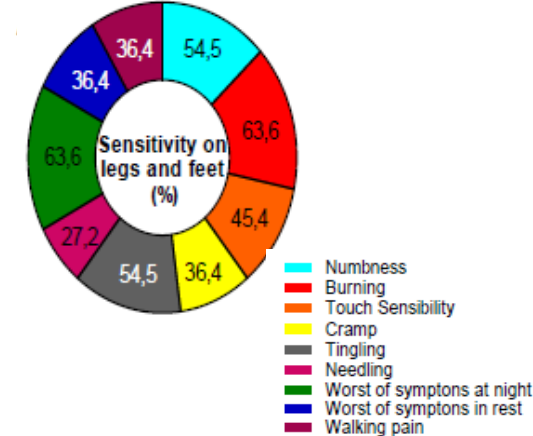
## RESULTS

### 1. PBMt improved quality of the Diabetic wounds



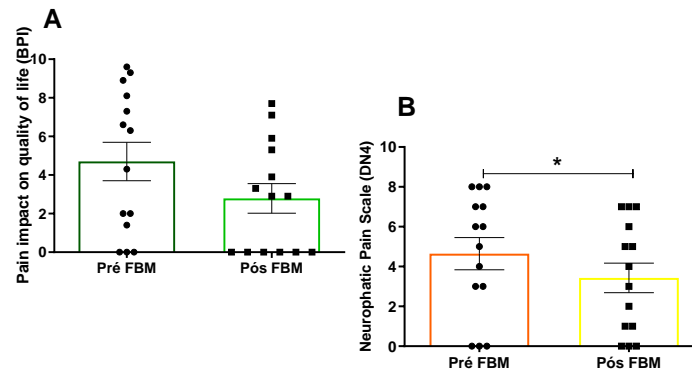
**Fig. 1 PBMt on quality and retraction of diabetic wounds.** Results correspond to mean±sem of 14 patients (18 wounds) pre (A, C, E) and post-PBM (B, D, F) based on digital photograph (Canon Powershot SX510 HS) and analysed by Image J software. p=0.001 of Post-PBM in comparison with Pre-PBM.

### 2. Prevalence of symptoms in Diabetic foot



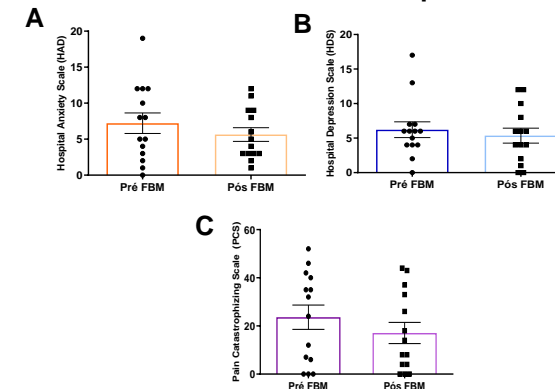
**Fig.2 Frequency of symptoms on legs and feet of diabetic volunteers.** Data correspond to the frequency of symptoms of 14 patients expressed in percentage (%).

### 3. PBMt decreased pain impact on quality of life



**Fig. 3 PBMt effect front of pain impact in quality of life of diabetic patients.** PBMt decreased (A) pain impact (BPI) and (B) symptoms of neuropathic pain (DN4). Data expressed as mean± sem of 14 patients pre and post-PBM based on BPI and DN4 questionnaires. Value of p=0.05 (A) and p=0.031 (B) of Post-PBM in comparison with Pre-PBM.

### 4. PBMt effect on emotional aspects of life



**Fig. 4 PBMt effect on quality of life scores.** Data expressed as mean± sem of 14 patients pre and post-PBM. HADS and Catastrophism questionnaires were applied. Were considered p=0.165 for anxiety (A), p=0.258 for depression (B) and p=0.108 for catastrophism (C) of Post-PBM in comparison with Pre-PBM.

## CONCLUSION

PBMt promoted significative and permanent wound retraction and improved quality of life and pain screening of patients, reinforcing the use of this adjuvant tool in the clinical treatment of painful symptoms and in the wound healing process.

## FINANCIAL SUPPORT



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