THERAPY: **PHOTOBIOMODULATION (PBM) – Advanced Red Light Therapy Bed**

CONDITION: **STROKE**

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Acute effects of photobiomodulation therapy and magnetic field on functional mobility in stroke survivors: a randomized, sham-controlled, triple-blind, crossover, clinical trial

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ABSTRACT

Identify the optimal energy delivered with a single application of the combination of photobiomodulation therapy (PBMT) combining different light sources (low-level laser therapy-LLLT and light emitting diode therapy-LEDT) and static magnetic field (sMF) in order to determine the acute effects on functional mobility of stroke survivors.

Was conducted a randomized, placebo-controlled, crossover, triple-blind, clinical trial (RCT).

Twelve patients were recruited, however ten concluded the study, they were randomly treated with four PBMT/sMF energies (sham-0 J, 10 J, 30 J, and 50 J per site irradiated), with 1-week interval washout between treatments. PBMT/sMF were administered after the pre-intervention (baseline) evaluation and the total energy delivered per site at each treatment was determined based on the results of the randomization procedure.

PBMT/sMF were administered in direct contact with the skin and applied with slight pressure to nine sites on the knee extensors, six sites on the knee flexors, and two sites on the plantar flexors' muscles in both lower limbs (bilaterally).

The primary outcome measure was the 6-min walk test (6MWT) and the secondary outcome was the Timed Up and Go (TUG) test.

Significant improvements were found in the 6MWT test using a total energy of 30 J per site compared with sham (0 J) ($p < 0.05$) and compared with the baseline evaluation ($p < 0.01$). And in the TUG test significant improvements were also found using a total energy per site of 30 J per site compared to sham (0 J) and baseline ($p < 0.05$). PBMT with different light sources (laser and LEDs) and wavelengths in combination with sMF with a total energy per site of 30 J has positive acute effects on functional mobility in stroke survivors.

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