

The “Buckets”: Early Observations on the Use of Red and Infrared Light Helmets in Parkinson’s Disease Patients

Catherine L. Hamilton, MBBS, MPH,¹ Hala El Khoury, BSc,¹ David Hamilton, BSc,¹
Frank Nicklason, MBBS, FRACP,^{1,2} and John Mitrofanis, PhD¹

Abstract

Background: Parkinson’s disease is a well-known neurological disorder with distinct motor signs and nonmotor symptoms.

Objective: We report on six patients with Parkinson’s disease that used in-house built photobiomodulation (PBM) helmets.

Methods: We used “buckets” lined with light-emitting diodes (LEDs) of wavelengths across the red to near infrared range (i.e., 670, 810, and 850 nm; n = 5) or an homemade intranasal LED device (660 nm; n = 1). Progress was assessed by the patients themselves, their spouse, or their attending medical practitioners.

Results: We found that 55% of the initial signs and symptoms of the six patients showed overall improvement, whereas 43% stayed the same and only 2% got worse. We also found that PBM did not target a specific sign or symptom, with both motor and nonmotor ones being affected, depending on the patient.

Conclusions: In summary, our early observations are the first to note the impact of PBM on patients’ signs and symptoms over an extended period, up to 24 months, and lays the groundwork for further development to clinical trial.