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Therapeutic Benefits of Biophoton Therapy in Parkinson's Disease: Clinical Evidence from a Pilot and Real-World Study

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ABSTRACT

Background: Parkinson's disease (PD) is a progressive neurodegenerative disorder lacking curative treatment. Biophoton therapy, a non-invasive modality utilizing ultra-weak photon emissions to restore cellular function, has shown promise in enhancing neurological recovery.

Objective: This study aimed to evaluate the clinical effects of automatic biophoton generators (ABG) on motor and non-motor symptoms in patients with PD.

Methods: A prospective, open-label pilot study enrolled 42 PD patients in both at home and wellness center settings. Participants received biophoton therapy for at least 8 hours daily over 2-4 weeks. Clinical outcomes were assessed using the Movement Disorder Society Unified Parkinson's Disease Rating Scale (MDS-UPDRS), the non-motor symptom scale (NMSS), Quality of Life (SF-36), and neurological examinations. Real-world feedback from 10 long-term ABG users was also analyzed.

Results: Biophoton therapy significantly improved motor function (reduced MDS-UPDRS scores), non-motor symptoms (lower NMSS scores), and quality of life (elevated SF-36 scores) within one week. No adverse events were reported. Improvements were consistent across both clinical and real-world groups, with enhanced energy, reduced tremors, and better sleep frequently cited. The detailed case demonstrated progressive neurological recovery, improved cognitive clarity, and increased biophoton levels over four weeks.

Conclusions: Biophoton therapy represents safe, effective, and non-invasive adjunct treatment for PD. Results suggest it may restore cellular energetics, reduce oxidative stress, and promote neuroplasticity. Larger randomized trials are warranted to confirm efficacy and optimize therapeutic protocols.

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Introduction

Parkinson disease (PD) is the second most common age-related neurodegenerative condition diagnosed in North America [1,2]. PD is a multi-system and multi-symptomatic neurodegenerative disorder, for which modifying or preventative measures are not presently available. As the population in Western nations has shifted to include a greater proportion of older adults, the public health and economic burdens of age-associated neurodegenerative disease have increased with an estimated economic cost of $52 billion per year in the US alone [3,4].

PD is a chronic neurodegenerative disorder characterized by progressive motor and non-motor symptoms, significantly impacting patients' quality of life. Despite advances in pharmacological and surgical interventions, treatment remains largely symptomatic, with limited success in halting or reversing disease progression. This unmet need underscores the importance of exploring novel therapeutic modalities that target underlying pathophysiological mechanisms.

Biophoton therapy, a non-invasive approach harnessing the beneficial effects of photonic energy, has emerged as a promising intervention for a variety of biological and neurological conditions [5-8]. Biophotons, the ultra-weak photons emitted by biological tissues, play a critical role in cellular communication and regulation of physiological processes. Recent studies have demonstrated the ability of biophotons to modulate mitochondrial function, enhance cellular repair mechanisms, and promote neural regeneration, making it a compelling candidate for addressing neurodegenerative disorders like Parkinson's disease.

This study aims to detail the therapeutic application of biophoton therapy in patients with Parkinson's disease, highlighting its potential to improve motor function, alleviate non-motor symptoms, and enhance overall neurological health. By leveraging biophotons to restore cellular energy homeostasis and reduce oxidative stress, this intervention may offer a groundbreaking, non-invasive alternative to conventional therapies. The findings from this case contribute to the growing body of evidence supporting the clinical relevance of biophoton therapy, laying the groundwork for future studies to establish its efficacy and mechanisms of action in neurodegenerative diseases.

Materials and Methods

The automatic biophoton generator (ABG) is an advanced therapeutic device designed with proprietary technology to emit biophotons automatically and simultaneously within the wavelength range of 500 to 1000 nm. These emissions are delivered at intensities approximately one million times greater than a healthy adult. Each ABG is rigorously characterized and analyzed using four highly sensitive, specialized instruments, and they were verified to automatically form a strong 3-dimentional biophoton field for at least three years without other energy resources.

The ABG device is simple to use-users only need to place it near their body at any time, day or night as illustrated in Figure 1. To date, over 40,000 individuals with various chronic health conditions have used ABGs over periods ranging from weeks to years, with no reported side effects. Comprehensive clinical studies have been conducted to assess the safety and efficacy of ABGs in addressing common chronic diseases [9,10]. The positive results from these studies have been submitted for publication in scientific and medical journals.

Figure 1: An Illustration of Using Biophoton Generators during Sleep

Clinical Study Methods

Study Design

This study was an open-label, non-randomized, prospective interventional clinical trial. Conducted as a pilot study, its outcomes were used to obtain approval from an independent Institutional Review Board (IRB) for a subsequent randomized, double-blind, placebo-controlled trial utilizing similar study procedures and devices. The pilot study included a total of 23 PD patients who completed a 4-week follow-up study at home, and 19 participants observed at a study center within a wellness hotel for two weeks. Fourteen participants completed the full study, and their data were used for analyses.

Study Procedures

Participants utilized the treatment device for a minimum of 8 hours daily during sleep, with additional use during the day encouraged over the two-week period. Assessments included the SF-36 Quality of Life questionnaire, Neurological Examinations, the Movement Disorder Society Unified Parkinson's Disease Rating Scale (MDS-UPDRS), and the Non-Motor Symptom Assessment Scale for Parkinson's Disease (NMSS). Evaluations were conducted at baseline and weekly thereafter by the study physician.

Study Population

Eligible participants were adults diagnosed with PD by their primary care physician. All participants experienced significant symptoms that disrupted normal daily life.

Investigational Product and Administration

The study device was an over-the-counter (OTC) medical device comprising 14 biophoton generators installed in the beds at the wellness hotel. These devices had been previously validated for safety and efficacy in improving blood circulation and reducing bodily pain. Assessments and study tasks were conducted objectively at baseline and again for 2- or 4-weeks post-treatment.

Outcome Variables

- **Primary Outcome:** The Movement Disorder Society Unified Parkinson's Disease Rating Scale (MDS-UPDRS), a PD-specific, self-assessed health measure evaluating multiple dimensions of PD such as strength, mobility, communication, and participation, was conducted at each study visit.
- **Secondary Outcomes:** The Non-Motor symptom scale (NMSS), covering nine dimensions (cardiovascular, sleep/fatigue, mood/cognition, perceptual problems, attention/memory, gastrointestinal, urinary, sexual function, and miscellaneous), and the SF-36 Health Survey, measuring quality of life, were conducted at each study visit. Neurological examinations were performed by a study physician at each office visit.
- **Safety Outcomes:** The occurrence of adverse events (AE), reported by participants or caregivers.

Eligibility Criteria

- **Inclusion Criteria:** Adults (≥18 years) capable of residing in a hotel, with a supportive caregiver available if needed, able to provide informed consent, diagnosed with PD with certain levels of disability, and fluent in English or with a caregiver available for translation.
- **Exclusion Criteria:** Untreated psychiatric disturbances, reliance on ventilators, co-morbid conditions interfering with study participation, or concurrent enrollment in another investigational trial.

Statistical Methods

Primary and secondary outcomes were analyzed using Chi-square tests or paired T-tests to compare baseline variables. The frequency of adverse events between groups was assessed using Chi-square analysis.

Results

The quality of life of the PD patients who participated in at-home 4-week study was summarized in Figure 2.

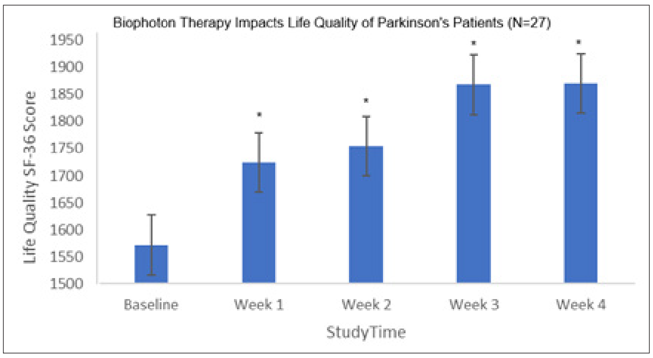

Figure 2: Impact of Biophoton Therapy on the Quality of Life in Parkinson's Disease Patients Participating in the At-Home Study

Figure 2 illustrates the significant improvement in quality of life among PD patients following biophoton therapy in an at-home setting. The SF-36 scores, which assess overall health and well-being, increased markedly after just one week of treatment, with statistically significant differences compared to baseline measurements. This rapid enhancement suggests that biophoton therapy may be an effective non-invasive intervention for improving life quality in PD patients.

Biophoton Therapy Impacted the MDS-UPDRS for PD Patients Who Participated in the At-Center Study. The data demonstrate a rapid and statistically significant reduction in MDS-UPDRS scores within the first week of treatment compared to Baseline, indicating an improvement in motor function and a decrease in Parkinson's disease symptoms. MDS-UPDRS scores were further reduced after two weeks of biophoton treatment. The outcomes were shown in Figure 3.

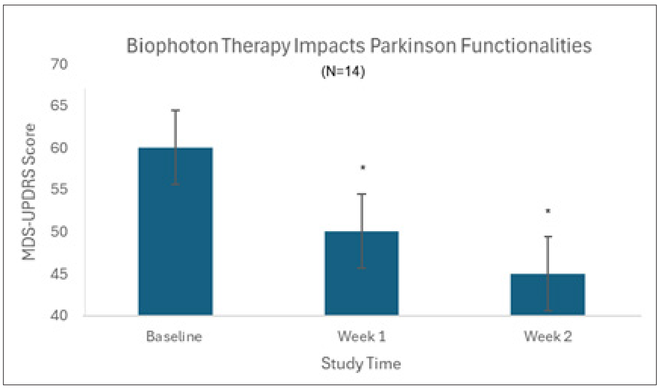

Figure 3: Impact of Biophoton Therapy on the Movement Disorder Society Unified Parkinson's Disease Rating Scale (MDS-UPDRS)

The rapid improvement of *MDS-UPDRS* observed in this study suggests that biophoton therapy may offer a promising non-invasive intervention for alleviating motor symptoms in Parkinson's disease. However, further research is necessary to fully understand the long-term effects and underlying mechanisms of this treatment modality.

Biophoton therapy also significantly improved the non-motor symptom scale (NMSS). The outcome was shown in Figure 4.

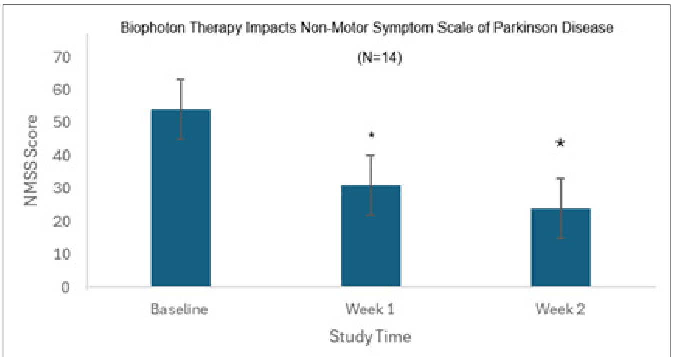

Figure 4: Impact of Biophoton Therapy on the Non-Motor Symptom Scale in Parkinson's Disease

Figure 4 illustrates the rapid reduction in NMSS scores following the initiation of biophoton therapy. Within one week of treatment, the NMSS scores showed a statistically significant improvement compared to baseline, indicating a substantial alleviation of non-motor symptoms such as fatigue, mood disturbances, cognitive impairment, and sleep disorders. The NMSS scores were further reduced after two weeks of biophoton treatment. These findings underscore the efficacy of biophoton therapy in addressing the multifaceted non-motor challenges associated with Parkinson's disease.

Quality of Life. The SF-36 Score improved very quickly after the study treatment started in a wellness hotel. After one week of treatment, the life quality SF-36 score was statistically better than the Baseline, shown in Figure 5.

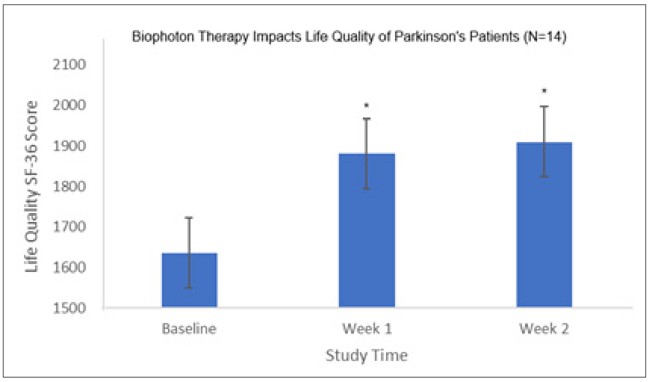

Figure 5: Impact of Biophoton Therapy on the Life Quality of PD Patients Who Participated in the At-Center Study

The results depicted in Fig. 5 demonstrate the positive effects of biophoton therapy on the PD quality of life, highlighting significant improvements in the overall health and well-being of patients with Parkinson's disease.

These outcomes provide strong evidence that biophoton treatment effectively alleviates symptoms, enhances mobility, reduces non-motor symptoms, and improves the quality of life for PD patients.

Presentation of a Group of 10 PD Patients

Tesla BioHealing products were marketed as over the counter (OTC) medical devices starting from September 2020. By the end of 2023, over 30,000 users with a variety of health issues had been using the devices to meet their needs. The manufacturer did not observe, and the users did not report any side effects after they used the products for a few weeks to a few years. Among them, ten PD patients voluntarily provided their feedback. We analyzed the outcomes of 10 PD patients using Tesla BioHealing devices, including the Tesla BioHealer and Tesla Medbed Generators. The focus lies on symptom improvement, recovery timelines, and device effectiveness across age groups. From patients' feedback using Tesla BioHealing products, the major benefits include:

1. **Pain Relief:** Many users experienced noticeable reduction in pain.
2. **Reduction in Tremors:** Patients with PD noted improvements, such as reduced tremors.
3. **Increased Energy:** Enhanced energy levels were reported, especially in elderly individuals.
4. **Improved Sleep Quality:** Better and deeper sleep was frequently mentioned.
5. **Faster Healing:** Users saw quicker recovery, including unexpected benefits like skin tag shrinking.
6. **Improved General Well-Being:** Overall improvements in health, happiness, and physical abilities were observed.

Patients reported seeing results within the following timeframes:

1. **Within 2 days:** Noticeable benefits such as skin improvements or increased well-being.
2. **A Few Days:** General improvements in symptoms like energy levels or mild pain relief.
3. **1-2 Weeks:** Significant improvements like reduced tremors or better sleep were observed.
4. **Short-Term Benefits:** Positive results were seen quickly, often within days to weeks.
5. **The Long-Term Effectiveness Indicates:** (1) Sustained Improvement: Users reported continued benefits over extended periods (e.g., months). (2) Improvement in Mobility and Energy: Long-term use resulted in significant and lasting enhancements in overall well-being and energy levels. (3) Symptoms Management: Patients with persistent conditions (like Parkinson's) noted ongoing improvements after continued use.

A Patient's Perspective: A 65-year-old Caucasian male wrote his feedback: As someone who has lived with Parkinson's disease for two years, I know firsthand how challenging it is to face the daily struggles that come with this condition. From the tremors that made simple tasks difficult to the overwhelming fatigue and cognitive fog that robbed me of my focus, my quality of life had been steadily declining. I tried various medications and therapies, but while they helped to some extent, the relief was often temporary, and I still felt like I was losing the battle against this disease.

When I was introduced to biophoton therapy as part of a clinical trial, I was initially skeptical. The idea of using a non-invasive device that emitted something as subtle as biophotons sounded almost too good to be true. However, I was willing to try anything that could offer a glimmer of hope. The study involved using a biophoton generator installed beneath my bed for at least eight hours a day, mainly during sleep, over a four-week period. The changes I experienced were nothing short of transformative. Within the first week, I noticed subtle improvements in my energy levels. Tasks that had previously drained me, like walking or even holding a conversation, started to feel less daunting. By the second week, my tremors had significantly reduced, and I began to feel steadier and in control of my movements. The mental clarity that followed was remarkable—my thoughts felt sharper, and I could concentrate on things I hadn't been able to enjoy for months, like reading a book or watching a movie with my family.

By the end of the four weeks, the improvement in my quality of life was undeniable. My physician noted significant progress in my motor functions during routine examinations, and my SF-36 Quality of Life score had increased dramatically. What's more, I was sleeping better, feeling less pain, and had a newfound optimism about my future. For the first time since my diagnosis, I felt like I was regaining control over my life.

Looking back, biophoton therapy gave me something that conventional treatments hadn't been able to provide: a comprehensive improvement in both my physical and mental well-being. It didn't just address individual symptoms it felt like it targeted the root causes of my condition. While I know every person's journey with PD is unique, I hope my story inspires others to explore new, innovative therapies like biophoton treatment. It gave me my life back, and for that, I am deeply grateful.

Discussion

This study underscores the potential of biophoton therapy as a promising adjunct treatment for PD, demonstrating significant improvements in motor and non-motor symptoms. The outcomes observed in this case and others highlight several key benefits of biophoton generators, including pain relief, enhanced energy levels, improved sleep quality, and reduced tremors, all contributing to an overall better quality of life for patients.

The findings suggest that biophoton emissions may play a pivotal role in enhancing cellular repair processes and promoting neuroplasticity. This could be attributed to mechanisms such as the modulation of mitochondrial activity, reduction in oxidative stress, and attenuation of neuroinflammation. These processes align with the observed improvements in neurological and systemic health metrics, as evidenced by increased SF-36 scores, reduced Alzheimer's Questionnaire scores, and lower MDS-UPDRS scores.

The rapid onset of benefits for some patients, within days to weeks, contrasts with the more gradual improvements observed in others, particularly older participants. This variability in response may be influenced by factors such as age, disease severity, and baseline mitochondrial function, suggesting that personalized approaches to biophoton therapy could optimize outcomes.

Although the study focused on short-term improvements, the real-world feedback from long-term users of Tesla BioHealing devices indicates sustained benefits, including prolonged symptom management and enhanced mobility. These findings underscore the importance of further longitudinal studies to evaluate the durability of therapeutic effects and to refine treatment protocols.

Automatic biophoton generators are believed to exert their therapeutic effects through the following mechanisms, targeting key physiological and cellular processes associated with Parkinson's disease (PD):

1. **Enhancement of Mitochondrial Function:** A strong biophoton field formed by billions of biophotons emitted from the ABG devices may stimulate mitochondrial biogenesis and enhance ATP production (11). Improved mitochondrial function is critical in PD, as energy deficits and mitochondrial dysfunction contribute to the degeneration of dopaminergic neurons in the substantia nigra.
2. **Reduction of Oxidative Stress:** By promoting cellular repair mechanisms, biophoton generators may mitigate oxidative damage by enhancing antioxidant enzyme activity and reducing the levels of reactive oxygen species (ROS) (11). This is particularly relevant in PD, where oxidative stress plays a major role in neuronal damage.
3. **Neuroinflammation Modulation:** Chronic neuroinflammation is a hallmark of PD pathology. Biophoton therapy may suppress pro-inflammatory cytokines and promote anti-inflammatory pathways, thereby reducing inflammation-induced neuronal loss and fostering a more neuroprotective environment (11).
4. **Promotion of Neuroplasticity and Neural Repair:** Biophoton emissions are thought to facilitate neural regeneration by stimulating the production of neurotrophic factors, such as brain-derived neurotrophic factor (BDNF). This can support the repair and regrowth of damaged neurons and synapses, enhancing motor and cognitive recovery in PD patients (11-12).

5. **Regulation of Cellular Signaling Pathways:** Biophotons may influence intracellular communication and signaling pathways, including calcium signaling and gene expression related to cell survival and repair (13-14). These effects could help stabilize the cellular environment and promote recovery in the affected neuronal circuits of PD patients.
6. **Improved Cerebral Blood Flow and Oxygenation:** Biophoton therapy may enhance microcirculation, improving blood flow and oxygen delivery to brain tissues. This can help mitigate hypoxic damage and provide an optimal environment for neuronal function and repair (16-18). Our clinical study directly observed that using biophoton generators to treat the patient with a high blood viscosity for two weeks significantly improved blood fluidity (19). This can lead to improved cerebral blood flow and oxygenation.
7. **Normalization of Electromagnetic Energy Fields:** The ultra-weak electromagnetic emissions from biophoton generators might restore disrupted bioelectrical and biochemical processes in the brain (11). By aligning the body's natural electromagnetic fields, biophoton therapy could support overall homeostasis and cellular function.

These mechanisms collectively suggest that biophoton generators address multiple underlying factors of PD pathophysiology, providing a comprehensive, non-invasive therapeutic approach. Further research is needed to elucidate these mechanisms and optimize the application of biophoton therapy in clinical settings.

While this pilot study provides valuable insights, it is limited by its small sample size and non-randomized design. The results support the need for larger, randomized controlled trials to validate these findings and elucidate the mechanisms underlying biophoton therapy. Additionally, exploring biophoton therapy in combination with conventional PD treatments could provide a synergistic approach to managing this complex neurodegenerative disorder.

Conclusion
This study highlights the potential of biophoton therapy as a safe and non-invasive adjunct treatment for Parkinson's disease (PD). The use of biophoton generators resulted in marked improvements in motor function, non-motor symptoms, and overall quality of life for participants, with rapid and sustained benefits observed in many cases. These findings suggest that biophoton therapy may play a critical role in addressing the cellular dysfunction and neuroinflammation associated with PD, paving the way for a novel therapeutic modality. While this pilot study provides promising results, large scale, randomized controlled trials are essential to validate these findings, explore long-term effects, and refine treatment protocols.

Clinical Implications
The clinical implications of this study are significant, offering a potential breakthrough in the management of Parkinson's disease. Biophoton therapy could serve as a valuable complement to existing pharmacological and rehabilitative interventions, addressing gaps in symptom management and improving patient outcomes. Its non-invasive nature, coupled with the absence of adverse effects reported in this study, makes it an attractive option for patients seeking alternative or supplemental treatments. Furthermore, the rapid onset of symptom relief observed in some participants suggests that biophoton therapy could provide immediate benefits for patients experiencing acute symptom exacerbations. As the understanding of biophoton mechanisms deepens, its integration into clinical practice could revolutionize the treatment landscape for neurodegenerative disorders like Parkinson's disease.

Declarations
Ethics Approval and Consent to Participate
The written informed consent form was voluntarily signed by all study participants. All study participants provided their consent for the use of biophoton therapy. This study follows the ethical guidelines outlined in the Declaration of Helsinki. The other 10 PD patients published their feedback to the public by themselves voluntarily after they used the Tesla BioHealing® ABGs

Consent for Publication
Written informed consent for publication was obtained from the patients involved in this study. The patients have reviewed the content and given explicit permission for the data and images to be published.

Availability of Data and Materials
The datasets generated and analyzed during the current study are available from the corresponding author on reasonable request.

Competing Interests
Tesla BioHealing, Inc., provided the automatic biophoton generators used in this case study and approved the study design, but did not influence data collection, primary analysis, or using the original medical data for writing the manuscript. JZL and HYG are co-inventors and co-founders of Tesla BioHealing, Inc.

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Authors' Contributions
JZL initiated and approved the study design by MS. SR, HS, and SL contributed to the data collection. JZL, SL and HYG performed the data analysis, and JZL, MS, SR, SL and HYG contributed to the interpretation of the data and manuscript writing. All authors read and approved the final manuscript.

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Note
1. The study was registered at ClinicalTrials.gov Registration ID: NCT06147999 Submitted: 2023-11-14.
2. The main parts of this manuscript were reported at the Global Conference on Dementia, Alzheimer's, and Parkinson's Diseases (DAPD-2025), held in Barcelona, Spain, from June 19-20, 2025.

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