SciMedCentral

Journal of Neurology & Translational Neuroscience

Mini Review

Forest Bathing as a Personalized Therapeutic Approach in Multiple Sclerosis: Current Insights and Future Perspectives

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Submitted: 19 November 2023

Accepted: 27 December 2023

Published: 29 December 2023

ISSN: 2333-7087

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INTRODUCTION

Multiple sclerosis (MS) and other autoimmune disorders affecting the Central Nervous System pose significant challenges due to their chronic and complex nature. Managing symptoms and monitoring therapies require a multidisciplinary approach [1]. The need for a personalized therapeutic strategy is crucial, considering the diverse manifestations and the impact on the patient's overall well-being [2]. Within the realm of complementary therapies, Forest Therapy has gained attention for its positive impact on neurological and psychiatric conditions [3]. Originating in Japan as "Shinrin Yoku" or Forest Bathing in 1982, it's an interdisciplinary science promoting health, as per the WHO's definition [4]. Forest Therapy, pioneered by immunologist Qing Li, President of the Japanese Society of Forest Medicine, explores the impact of forest environments on lymphocyte distribution, particularly enhancing Natural Killer cells linked to autoimmunity and chronic diseases [5,6].

Principles of forest therapy

Shinrin-yoku, born from urbanization's estrangement from nature, promotes therapeutic immersion in natural settings, particularly with trees emitting health-enhancing compounds. Biogenic volatile organic compounds (B-VOCs), aromatic terpenes in leaves, flowers, and fruits, provide diverse benefits like antioxidants, anti- inflammatories, and immunomodulators, impacting physical and psychological well-being. Forest exposure, with over 1,000 identified compounds, positively influences cytokine release [7,8]. Notably, d-limonene inhibits inflammation, α-pinene improves sleep, and β-mircene reduces inflammation. Forest therapy yields physiological benefits-lower blood pressure, heart rate, cortisol, and improved mood—and psychological benefits, evident in studies on asthma, oncology, and metabolic-oxidative states [9-12]. The Forest Bathing process begins with an introductory briefing, followed by data collection for assessing immersion effects. Participants engage in a slow, guided walk, possibly barefoot, incorporating bioenergetic grounding. The immersion involves guided playful, meditative, educational, and psychosocial experiences tailored to participants' needs.

Key principles include letting go of attachments, mindful walking, and employing all senses. Aromatherapy and intentional observation or deprivation of sight contribute to a simpler sensory and cognitive response than artificial stimuli. The process concludes with a symbolic "tree hug," representing grounding and vital impulse. It's been widely demonstrated that touching wood can stimulate neural networks and produce feelings of well- being [13]. The forest, an archetype of mystery and transformation, concludes with a briefing for sharing experiences and purposes. Forest therapy, with structured experiences like guided walks, mindfulness, breathing exercises, yoga, Qi-Gong, dance, music therapy, plant music listening, and essential oil exploration, proves effective. Long-term programs, often led by professionals in collaboration with healthcare providers, yield optimal results. In patients with chronic fatigue, a single forest immersion effectively addresses issues like insomnia, emotional distress, fatigue, anxiety, and depression, enhancing overall quality of life [14].

Forest Bathing experience in Multiple Sclerosis

Three Forest Therapy experiences have been conducted on multiple sclerosis (MS) patients at the San Pietro Fatebenefratelli MS Center in Rome and the Frosinone Hospital MS Center. The sessions, led by facilitators qualified in Forest Medicine, aimed to explore the therapeutic potential of Forest Bathing for functional recovery and the treatment of psychological issues and fatigue in MS patients. The response from patients and caregivers was enthusiastic, with logistical challenges easily overcome. The Association of Italian Forest Medicine (AIMeF) aims to promote Forest Immersion in Italy as a complementary healthcare discipline, emphasizing its potential benefits for MS patients' quality of life and physical resilience, regardless of disability levels [15].

Future Perspectives

The evolving landscape of therapeutic options necessitates a holistic perspective that considers direct and indirect costs, emphasizing patient satisfaction and improved quality of life. Forest Therapy, with its potential to enhance physical, psychological, and social aspects, aligns with the shifting paradigm of personalized medicine. Future research should delve into refining analytical models for environmental assessment, exploring the preventive effects on the general population, and conducting clinical trials to establish Forest Therapy as a recognized medical practice [16,17].

CONCLUSIONS

Forest Bathing, as a personalized therapeutic approach, holds promise for individuals with MS. Its integration into mainstream medical practices requires further research, collaboration between healthcare providers, and advocacy for accessible forest environments. Embracing the biofilia concept, the profound connection between humans and forests offers a path towards enhanced well-being and resilience, transcending the boundaries of conventional medical interventions [18]. The journey of Forest Bathing unfolds as a synergistic alliance between nature and medicine, paving the way for a more patient-centered and sustainable approach to healthcare.

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