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EDITORIAL

Integrating Spirituality into Neurological Healthcare

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Brain health, as defined by Owolabi et al.[8], encompasses the integration of cognitive, emotional, and motor functions that are essential for optimal learning, adaptation, and overall life performance. This broad understanding is further enriched by various perspectives, which highlight critical elements such as learning, memory, and the adaptability of cognitive and emotional capacities. In particular, cognitive health plays a vital role in fostering social connectivity, especially in older adults. The ability to maintain meaningful relationships as one ages is closely tied to the brain's capacity for adaptation and resilience. Viewed as a dynamic and multifaceted state influenced by numerous factors, brain health involves not only the preservation of brain integrity but also the cultivation of overall well-being. Ultimately, these aspects converge to enable individuals to reach their full potential throughout life. By emphasizing the interconnectedness of cognitive, emotional, and social functions, this holistic approach to brain health underscores its fundamental role in achieving a fulfilling and balanced life at every stage of development.

Building on this understanding, Bradley et al.[1] propose a modern perspective on health that extends beyond the mere absence of disease. They advocate for a definition that integrates body, mind, and spirit, aligning with the holistic nature of brain health. Their approach emphasizes a dynamic quality of life that facilitates full engagement with each day, regardless of disease or disability. This broader view challenges traditional healthcare models, which often focus narrowly on disease treatment, and instead promotes a more comprehensive understanding of well-being.

In line with this holistic approach, Lopes' article, "Integração da Espiritualidade nos Cuidados de Saúde: A Jornada do Paciente,"[5] published in the Revista Brasileira de Neurologia, highlights the benefits of incorporating spirituality into healthcare services. This integration has been shown to enhance patients' quality of life by influencing health decisions, improving treatment adherence, and providing crucial emotional and mental support, particularly for those with chronic and terminal illnesses. Research links spirituality to lower rates of depression, better pain management, and reduced mortality. Despite its recognized importance, implementing spiritual care systematically remains a challenge. Initiatives such as the Consensus Conference by the Archstone Foundation advocate for a holistic approach to spiritual care, which includes physical, psychological, social, and spiritual dimensions, fostering a healing environment that honors all aspects of the human experience.

In neurology, the significance of spirituality is increasingly recognized, as in the management of conditions like epilepsy and Alzheimer's disease. Khalsa and Newberg[4] introduce the concept of "spiritual fitness" for Alzheimer's prevention, suggesting that spiritual practices could enhance patient care. Similarly, Petrarca and Tedrus[9] investigate how spiritual and religious beliefs affect suicide risk in Brazilian patients with epilepsy, highlighting the importance of spirituality in addressing neurological conditions.

This growing recognition of spirituality's role in neurology is timely, given the rising global burden of neurological disorders, particularly in low-resource settings. Owolabi et al.[8] respond to this challenge by discussing the World Health Organization's Intersectoral Global Action Plan on Epilepsy and other Neurological Disorders 2022–2031. Their plan advocates for a "neurological revolution," focusing on surveillance, prevention, acute care, and rehabilitation - referred to as the neurological quadrangle. This strategy involves incorporating holistic, spiritual, and planetary health perspectives, aligning with the findings of Khalsa and Newberg[4], as well as Petrarca and Tedrus[9], as previously cited. By focusing on brain regions such as the medial frontal cortex, orbitofrontal cortex, precuneus, posterior cingulate cortex, and caudate nucleus, and proposing a combined biophysical and psychospiritual model, Owolabi et al.[8] seek to improve clinical interventions and align with the Sustainable Development Goals (SDGs), particularly SDG 3 (health). Their approach highlights the importance of a comprehensive strategy for enhancing neurological health outcomes. Robinson and Holloway[10] emphasize the need to integrate spirituality into palliative care for neurological disorders like Parkinson's, dementia, ALS, brain tumors, and strokes, which involve significant symptom burdens and complex prognoses. They advocate for routine spiritual assessments to address patients' full range of needs and recommend early communication about prognosis and care planning to align treatment with patients' values. The article calls for neurologists to incorporate palliative care and spiritual care principles to enhance patient well-being.

Lucchetti et al.[6] review the evidence linking spirituality/religiousness with mental health, noting that this relationship is likely bidirectional and influenced by how religious beliefs help cope with distress. Proposed mechanisms include virtues (e.g., forgiveness, altruism) and biological markers (e.g., brain-derived neurotrophic factor, serotonin transporter availability, and gene neurotransmitters). However, more research is needed to clarify these connections.

Understanding spirituality's impact on mental and physical well-being is crucial for recognizing how it shapes coping mechanisms, resilience, and overall flourishing. Integrating spirituality into patient care can enhance empathy, compassion, and awareness of spiritual and existential concerns. Culture, influencing beliefs and perceptions about health and illness, should be integrated into medical education to ensure cultural competence among neurologists and psychiatrists. This approach fosters trust and effective communication with patients from diverse backgrounds, supporting personalized, evidence-based care[3].

Neurotheology, as discussed by Newberg[7], delves into the intersection of neuroscience and religious experiences, confronting the challenges posed by the subjective nature of spirituality. This interdisciplinary field seeks to uncover the neural basis of spiritual and religious experiences, attempting to bridge the gap between spirituality and science. However, while neuroscience offers insights into aspects of religious experiences, it cannot fully capture the profound dimensions of faith.

To achieve this, Neurotheology investigates the complex brain activity involved in spiritual practices, utilizing advanced methods that consider the brain's integrated functioning. The field faces significant challenges, such as participant selection, research design, and data analysis, as existing questionnaires often fall short in capturing individual spiritual beliefs effectively. By focusing on brain structures like the autonomic nervous system, various brain lobes, the limbic system, and neurotransmitters that influence mood and social bonding, Neurotheology strives to enhance our understanding of how spiritual experiences are reflected in brain activity[7].

Recent studies by Cristofori et al.[2] and Ferguson et al.[3] have advanced our understanding of the neural basis of spirituality and religiosity through the use of brain lesion studies. Cristofori et al.[2] focused on religious beliefs by examining brain lesions, particularly within participants from the Vietnam Head Injury Study

(VHIS). Their findings indicate that damage to the ventromedial prefrontal cortex leads to a more profound personal relationship with God and enhanced feelings of control and empathy. In contrast, damage to the dorsolateral prefrontal cortex correlates with more frequent mystical experiences, impaired executive functions, increased religious fundamentalism, and reduced cognitive flexibility. These findings highlight the complex interplay between brain function, religious belief, and cognitive processes. They underscore the complex interplay between cognitive functions and religious beliefs.

Expanding on this, Ferguson et al[3] utilized lesion network mapping to examine neural data from patients with brain disorders, investigating the links between brain lesions and spiritual or religious beliefs. Their findings indicate that lesions connected to spirituality and religiosity correspond to a brain circuit involving the periaqueductal gray. This circuit matches the lesion sites reported in previous cases of hyper-religiosity and those linked with persistent fixed beliefs and sensations of control by an external force.

Together, these studies highlight the nuanced relationship between specific brain regions and the experience of spirituality and religiosity, offering new insights into the neural mechanisms underlying these deeply personal beliefs.

In conclusion, incorporating spirituality into medical practice, especially in neurology and palliative care, offers the potential to improve patient outcomes by addressing physical, psychological, existential, and spiritual needs. This approach demands careful attention to biases and limitations, as well as a thorough exploration of its complexities. Ongoing research in Neurotheology and the neural bases of spirituality will further elucidate these connections, advancing patient care and deepening our understanding of the human experience.

Conflict of Interest: The author has no conflicts of interest to disclose.

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