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Neural Coefficient Theory: A Key to Unlock Neuro-recovery's Missing Link

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ABSTRACT

Introduction: The complexity of neuro-rehabilitation necessitates a deeper understanding of neural dynamics and their role in functional recovery. This study introduces the Neural Coefficient Theory, a novel framework that quantifies the relationship between Autonomic Nervous System (ANS), Peripheral Nervous System (PNS) and Central Nervous System (CNS). By proposing ANS as a key factor, the theory bridges the gap between theoretical neuroscience and clinical application. The Neural Coefficient Theory states that, *"Autonomic Nervous System acts as the coefficient in the recovery of nervous system related diseases or disorders".*

Aim: The study aimed to establish that the ANS rehabilitation along with standard rehabilitation protocols in CNS and PNS lesions is vital for improving neurological patient's outcomes and quality of life.

Methodology:

Nature of study: The study was an innovative and qualitative study to demonstrate the conceptual framework of Neural Coefficient theory approved by IEC, Punjabi University, Patiala (Ref Number: 28/55/IEC/PUP/2022)

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Implications: By addressing both the primary and secondary effects of these lesions on the ANS, healthcare professionals can help individuals with nervous system related disorders to achieve better functional outcomes and enhanced overall well-being.

Conclusion: Preliminary analysis and clinical observations suggested that the ANS could serve as a predictive tool to customise rehabilitation protocols, enhancing outcomes for neurological patients. This theory not only advances the scientific understanding of role of ANS in the recovery of CNS or PNS-based disorders but also lays the groundwork for personalised medicine in neurorehabilitation. Further studies are required to validate its efficacy and develop clinical models for its application.

Keywords: Autonomic Nervous System; Central Nervous System; Peripheral Nervous System