Neurodevelopmental Treatment (NDT) Approach for Improving Balance in the Hemiplegic Stroke Patient: A Comprehensive Case Study

ABSTRACT

Background: Stroke is the second leading cause of death and a significant contributor to disability worldwide. The prevalence of stroke is highest in developing countries, with ischemic stroke being the most common type. Considerable progress has been made in our understanding of the pathophysiology of stroke and the underlying mechanisms leading to ischemic insult. Stroke therapy primarily focuses on restoring blood flow to the brain and treating stroke-induced neurological damage. Pre-clinical and clinical care improvements will likely underpin successful stroke treatment, recovery, rehabilitation and prevention. The Bobath approach, also known as neurodevelopmental treatment (NDT), is a widely used concept in the rehabilitation of stroke patients with hemiparesis in many countries. This technique has been operated for years worldwide; however, strong evidence of its usefulness remains absent. Methodology: In this case study, by applying the Bobath approach, the researcher saw a significant change in his patient regarding movement, posture, balance, and coordination. Results: After seven (07) days of therapeutic intervention, the goal was achieved as reasonable postural control in sitting and standing, which was not during the assessment day. Now, the patient has been walking with minimum support and less compensatory movement present on the opposite side, but during the assessment, he required maximum support and could not walk. He needs more therapeutic intervention for independent walking. He also had limited movement in his Right upper limb. Conclusion & Recommendation: Neurodevelopmental Treatment (NDT) is a practical treatment approach for stroke rehabilitation, especially for improving movement, posture, balance and coordination. For this case, the Physiotherapist must be more involved in his gait reeducation and upper Limb complications to achieve optimal levels of functional and ADLs status like grasping objects with his hand, carrying objects while maintaining proper alignment, etc.