

NEGLECTING INTEGRATION OF PRIMITIVE REFLEXES IN PHYSICAL THERAPY PLANS FOR CEREBRAL PALSY

INFO

Ayesha Ahmad

M. Phil Scholar, University Institute of Physical Therapy, The University of Lahore

Email:

ahmadayesha460@gmail.com

Vol 01 Issue 04
OCT-DEC 2023

ISSN Online: 2960-2599

ISSN Print: 2960-2580

Copyright 2023:

Pioneer Journal of Biostatistics and Medical Research (PJBMR) publishes under the policy of Creative Commons license.

GUEST EDITORIAL

“Cerebral Palsy” is an umbrella term that refers to a group of changing motor and postural disorders that occur due to non progressive lesion or abnormality in the developing brain. The causes or Cerebral Palsy are complex. For centuries, hypoxia during birth or pregnancy was considered the only cause. There are Prenatal (vaginal bleeding, multiple pregnancies, drugs etc), Perinatal (prolonged labour, asphyxia etc) and Neonatal (respiratory distress syndrome, hyperbilirubinemia, intercranial hemorrhage etc) risk factors.¹

Cerebral Palsy is characterized by motor, sensory, perceptual, cognitive, behavioral and other musculoskeletal disorders.¹ Ingram has classified the condition into Diplegic, Hemiplegic, Tetraplegic, Ataxic, Dyskinetic, and Mixed. According to

Hagberg there are three basic classifications, Spastic, Dyskinetic and Ataxic, where 80% cases are Spastic, 10-20% Dyskinetic and about 5-10% are Ataxic.²

The condition is usually diagnosed in a child at about 3-5 years of age. The incidence of CP is 1-6/1000 live births globally but the prevalence in Pakistan is still unknown due to lack of a national registry in the country.³ The common outcome measures used to assess the motor level and functioning in a child with CP are Gross motor functional classification system (GMFCS), Manual Ability Classification System (MACS) and Eating and drinking ability classification system EDACS.²

Primitive reflexes are the automatic instinctive movements that develop during gestational period and are present in infants as survival tools. All the primitive reflexes act as stimulants for the sensory-motor neural pathways and they evolve into voluntary movements during normal development of the child.⁴ The reflexes include Palmar grasp, Moro, Assymetric Tonic Neck Reflex (ATNR), Symmetric Tonic Neck Reflex (STNR), Tonic Labrynthine Reflex (TLR) etc. The integration of primitive reflexes is necessary to lay the foundation of function in the body. An incomplete integration of primitive reflexes can lead to reflexive involuntary motor response pattern. The uncontrolled movements effect the child's motor development.⁵ The retention can lead to sensory-motor delays including vestibular hypersensitivity, balance insecurity, poor eye hand coordination, sensory hypersensitivity, difficulty in fine motor activities, inability to hold head, roll, crawl, sit, transition etc. Deficiency in the maturation of the postural mechanism can adhere the children to primitive motor patterns.⁶

Physical therapists use task specific plans which are beneficial in a way but the perplexing factors like retention of primitive reflexes may be acting as a hindrance for the child, thus decelerating the

progress.⁴The primitive reflexes have usually been forgotten variables in treating the children with Cerebral Palsy. These reflexes may be assessed in the patients for retention but the treatment plans do not include reflex integration.⁶ A study conducted in 2019 concluded that reflex integration approaches in Spastic CP are beneficial and the retainment can lead to delayed milestones.⁶ A case reported in 2019 emphasized that reflex integration techniques have a positive impact on the Gross Motor Function Measure (GMFM) scores of a child with CP.⁴ A study in 2021 and found that active primary reflexes reflect neuromotor development. If the reflexes are properly integrated in an older child according to age and he shows low reflex activity, the motor skills are higher. Children are better at social and emotional regulation.⁵

Various techniques considering these reflexes have now emerged in physical therapy including DMI (Dynamic Movement Intervention), Sensory Integration and Masgutova sensori-motor reflex integration program⁷, however limited literature is available and researches are encouraged. Physical Therapy plans with static and stereotypical designs can prolong the treatment, leaving detectable void in certain aspects. It is crucial that keen observations and interventions beyond obvious motor concerns are considered in Pediatric Physical Therapy.

REFERENCES

01. Sadowska M, Sarecka-Hujar B, Kopyta I. Cerebral palsy: current opinions on definition, epidemiology, risk factors, classification and treatment options. *Neuropsychiatric disease and treatment*. 2020;1505-18.
02. Paul S, Nahar A, Bhagawati M, Kunwar AJ. A Review on Recent Advances of Cerebral Palsy. *Oxidative Medicine and Cellular Longevity*. 2022;2022.
03. Khan SA, Talat S, Malik MI. Risk factors, types, and neuroimaging findings in Children with Cerebral Palsy. *Pakistan Journal of Medical Sciences*. 2022;38(7).
04. Bowden A. Primitive Reflex Integration in Intensive Physical Therapy and Gross Motor Function in Children with Cerebral Palsy: A Case Report: University of Iowa; 2019.
05. Pecuch A, Gieysztor E, Wolańska E, Telenga M, Paprocka-Borowicz M. Primitive reflex activity in relation to motor skills in healthy preschool children. *Brain sciences*. 2021;11(8):967.
06. Wagh SC, Malawade MR, Vardharajulu G. Effect of Specific Reflex Integration Approach on Primitive Reflexes in Spastic Cerebral Palsy Children. *Int J Health Sci Res*. 2019;9:87-93.
07. Mohamed MA, El-Dein MS, EL-Deen SMN, El Fakharany MS. Sensory integration versus Masgutova neuro-sensorimotor reflex integration program on controlling primitive reflexes and gross motor abilities in children with diplegic cerebral palsy. *Physiotherapy Research International*. 2023;28(4):e2030.