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Editorial Article

Transformative Strategies for Cerebral Palsy Care in Low-income countries by Integrating Early Diagnosis, Multimodal Intervention, and Community Engagement: Concerning need of the time

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I am writing to shed light on the urgent need for early diagnosis and management of cerebral palsy, a prevalent and serious condition that significantly impacts the lives of individuals and families in Pakistan. Although the definition of Cerebral Palsy (CP) has been changing over time, it remains a clinical diagnosis: presence of a motor disorder causing activity limitations with evidence of nonprogressive brain damage CP is caused by abnormal development of the brain or damage to the developing brain that affects a person's ability to control their muscles.(1) Recent research has unveiled new findings regarding the importance of early diagnosis and its implications for Pakistan's healthcare system and affected individuals.

Advancements in neuroimaging and assessment techniques have facilitated early diagnosis and prognostication of cerebral palsy. A systematic review(2) identifies the three tools with potent positive predictive implications to detect high risk of CP before the corrected age of 5 months old which includes neonatal magnetic resonance imaging (MRI) (86–89% sensitivity. After the corrected age of 5 months old, the best tools to recognize high risk of CP includes brain MRI (86–89% sensitivity). Similarly, a study in Pediatric Medicine underscores the significance of early detection of cerebral palsy through comprehensive neurodevelopmental assessments including The Prechtl Qualitative Assessment and HINE with CP detection sensitivity of 96% and specificity of 87% at 3 months of age. (3)

A study in Scientific research demonstrates the positive impact of early physiotherapy and conductive education and interventions on motor skills and mental function in children with cerebral palsy(4) Community-based rehabilitation programs also have emerged as effective strategies for early intervention in cerebral palsy brings to light use of community-based cerebral palsy detection programs for infants at high risk of cerebral palsy in a low-resource country and how they are beneficial.(5)

A recent meta-analysis done in Developmental medicine and Child Neurology comparing prevalence of Cerebral palsy in High income countries (HICs) with Low-income countries (LMICs), shows birth prevalence for pre-/perinatal CP was as high as 3.4 per 1000 (95% CI 3.0-3.9) live births.(6) These demands need for early diagnosis and rehabilitation of neonates with CP in LMICs like Pakistan.

Early diagnosis and management are crucial in mitigating the impact of cerebral palsy in countries with high prevalence like Pakistan. Due to presence of potential risk factors(7) that might be contributing to high prevalence of cerebral palsy and due to decreased availability of rehabilitation for patients , psychological factors affecting neonatal physical therapy, health care options availability, socioeconomic status of majority

of population, accessibility to public health care it becomes essential to diagnose Cerebral palsy in early stages for better prognosis and neurological, motor and functional rehabilitation of infants. Also via increasing trends of parental understanding, neuroimaging, leveraging new findings in neurodevelopmental assessment, limiting its potential risk factors and community awareness campaigns about positive impact of therapy, community based rehabilitation might decrease prevalence of disease, its potential complications and change health trends amongst people, Pakistan can improve outcomes for individuals with cerebral palsy and promote inclusive healthcare for all.

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