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MANDATORY CHILD NEUROLOGY TRAINING FOR ADULT NEUROLOGY RESIDENTS IN PAKISTAN

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Pakistan has a population of approximately 230 million as of April 2023, based on worldometer with 49% comprising of pediatric population. We are facing dual burden of communicable as well as non-communicable diseases owing to compound risk factors including consanguineous marriages, large family sizes and overcrowding imposing a greater risk of infection. Over the years, there has also been a population explosion that has led to scarcity of resources and unemployment leading to poverty, further contributing to the burden of disease. In developing part of the world, epidemiological and demographic metamorphosis has led to identification of non-communicable diseases with either high morbidity and/or mortality. Neurological disorders account for a significant proportion within this group with children being the most vulnerable ones to be affected.¹

The complexities and the wide array of diseases arising from the developing nervous system of a child requires a detailed knowledge of pediatrics, often described as a mother specialty.² Although the origin of Child Neurology can be traced back to 1700s and 1800s, the outburst of knowledge regarding the neurological diseases affecting newborns and children led to the emergence of a formal Child Neurology training as a specialized branch of pediatrics. Over the years, there have been rapid developments in neuroscience with technological advancement in neurogenetics, immune mediated disorder, rehabilitation and metabolomics where the Child Neurologist is the gatekeeper to novel therapies aimed at the root cause of disease.³ The breakneck speed at which advance research is being done warrants to transform Child Neurology from a diagnostic and supportive field into an interventional one.⁴

Not only are the Child Neurologists actively involved in the care of neonates suffering from hypoxic ischemic encephalopathy or stroke, infants and children ailing from epilepsy syndromes or neurometabolic disorders which requires prompt recognition and treatment, but have also expanded themselves into a new array of consultative services with the perinatologists and geneticists in diagnosing genetic disorders and recommending further management and future counseling.³ In addition, child neurologists have fundamental roles in diagnosing and managing immune mediated disorders and refractory epilepsies through immunomodulation, plasmapheresis and ketogenic diet, thus becoming the principal care provider for managing these children acutely and long-term. Moreover, with its multidisciplinary line with active involvement of various departments like rehabilitation, child psychiatry, psychology and occupational therapy have revolutionized the approach towards the differently abled children.⁵

The majority of children with childhood neurological disorders, epilepsy syndromes and neurodevelopmental disabilities survive to adulthood requiring transition of care from Child Neurology to Adult Neurology. In various studies done on the transition from child to adult neurology care, they found almost half of adult neurologists believed that they were not adequately trained to care for this growing patient population.^{6,7} This emphasizes the need of knowledge among adult neurologists regarding childhood onset chronic neurological conditions that may smooth the transition of these young adolescents from pediatric to adult care.

For this purpose, neurology residents should be encouraged to rotate in Child Neurology in order to gain knowledge about the distinct childhood neurological disorders that differ from the adult in physical, developmental, behavior and cognitive domains. As already specializing in neurology, history and examination for localization of lesion in older children wouldn't be much arduous but the diverse etiological factors, neuro-developmental profiles and management strategies are different and needs exposure.

Format may include detailed neurological and developmental history and examination including assessment of cognition, learning & attention, visual-motor and emotional functioning of child with a focused differential diagnosis. Furthermore, to brace oneself with the complete spectrum of neurological disorders seen in children in different outpatient settings including pediatric movement disorder, neuro-oncology, muscular dystrophy, epilepsy, learning,

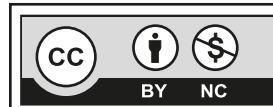
attention and behavioral disorders and children with special needs. Additionally, to learn the advantages and limitations of the full array of diagnostic tests including metabolic chromatography and genetic testing that could be used in any given case. Through this format, the neurologists, who are in larger number and serving across the country where child neurologist are not available, will be able to delineate and manage childhood neurological disorders better and comfortably.⁷

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