

Brain Health Initiatives for Pakistan

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Brain health can be defined as the state of brain functioning across sensory, cognitive, social-emotional, behavioural, and motor domains—the combination of which allows a human being to realize their full potential over the course of their life, regardless of the presence or absence of neurological disorders.¹ When brain health is prioritised and optimised, mental and physical health are also improved, which correlates with positive economic and social impacts. All of these contribute to a more prosperous and healthy society. However, developing countries such as Pakistan are at a disadvantage due to antecedent conditions like environmental factors and de-prioritisation of brain health in both policy and national finances. This editorial delineates brain health initiatives for Pakistan, drawing on WHO frameworks and other countries' proactive endeavours.

Since brain health is an evolving field, it is useful to first elaborate on this concept with reference to recent scholarly works. The World Health Organization (WHO)'s Intersectoral Global Action Plan on Epilepsy and Other Neurological Disorders 2022–2031 (IGAP) defines good brain health as *"a state in which every individual can learn, realize their potential and optimize their cognitive, psychological, neurophysiological and behavioural responses, while adapting to changing environments"*.² Thus, the concept of brain health is not just limited to the absence of neurological disease and biological factors, but can be understood to holistically comprise all crucial areas and stages of the life course through a person-centric approach.³ Further, a recent concept analysis by WHO extricated attributes, antecedents, and consequences of brain health, and then concluded that brain health may be defined as *"a life-long, multidimensional, dynamic state consisting of cognitive, emotional and motor domains underpinned by physiological processes and can be objectively measured and subjectively experienced influenced by eco-biopsychosocial determinants"*.⁴

Global action on brain health is dreadfully little, but low-income and developing countries such as Pakistan have it even worse. In lower-resource settings, there are a limited number of health workers that have neurology-specific

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training in the first place.¹ Turning to Pakistan, there are approximately four hundred trained neurologists in a country that has a population of about 230 million.⁵ This means that there are two neurologists per 1 million of the population.⁶ Besides minimal access to quality services, Pakistanis also suffer from unhealthy environments, and a lack of education regarding brain health from an early age. Thus, there are many initiatives that can be launched at the national and individual scale for greater recognition and prioritisation of brain health in Pakistan.

Brain health advocacy in Pakistan must begin with effective education and lifelong learning. At the individual level, such an education campaign would promote key brain skills and related concepts. Further, through education and age-appropriate school curricula, students can begin to understand neurodiversity and learning disorders. This can also ensure effective screening and intervention for learning disorders.⁷ Starting from early childhood, the education campaign would help teach people that the greatest asset that they have is the brain, how to take care of it, and how to prevent brain injuries and diseases.

Moreover, according to the framework laid out by WHO's position paper recently, there are at least five major determinants of brain health—healthy environments, physical health, safety and security, and access to quality of services.¹ Pakistan is sorely lacking in nearly all these sectors, and there can be brain health initiatives that cater to each of these determinants. For example, regarding physical health, there can be a push to increase access to perinatal, child, and adolescent healthcare, including neurodevelopmental assessments. Access to appropriate use of essential medicine and diagnostics can also be increased for greater equity.

A primary barrier to national brain health in Pakistan is the lack of access to quality service. WHO outlines several initiatives that can be adopted in this regard—such as growth monitoring and neurodevelopmental assessments in school health programmes for early diagnosis and intervention; establish, strengthen, and train skilled interdisciplinary health and social care teams to diagnose, treat and manage CNS disorders. This will mean that the country must dedicate a portion of the health budget to the management and prevention of CNS disorders, including access to essential medicines.¹

Financing these initiatives and raising national resolve to promote brain health in Pakistan will be a challenging task. Dawson et al. (2021) outlined an interesting proposal for the U.S. that governments like Pakistan could also adapt. They proposed a White House Brain Capital Council for the United States. This Council would take a whole-of-government approach, integrating federal government with communities at all levels, engaging partners across the spectrum from small and medium enterprises to patient and caregiver groups, to educators, to health care workers, economists, and beyond. Additionally, they propose the creation of a National Brain Institute based on the successful National Cancer Institute. A new brain-focused institute may operate as a national director of brain-based research.⁸ The government of Pakistan could look to both these proposals for inspiration to galvanise brain health advocacy on a national level. A multi-stakeholders consortium with all brain related specialties (neurology, psychiatry, neurosurgery, neuro-rehabilitation, child neurology, neuroradiology, neurosciences, psychology) and other medical specialties (diabetes, heart, Tobacco alliance, hypertension experts etc.) should join hands with social scientists, scholars, economists, lawyers, civil society organizations, and mass communications for brain health.

Finally, Pakistan will need an initiative to measure brain health and brain capital adequately and effectively. There must be a concerted effort to identify tools that measure and quantify brain health at the individual, community, national, and global levels. This is the only way to evaluate and refine policies and gauge their impact.⁷

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