

# **Growing burden of neurological diseases in Pakistan — need for a national health survey**

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Overall burden of Neurological Diseases in the world is around 6.5%. It ranges from 4-5% in lower income countries (Pakistan) as compared to 10-11% in high income countries.<sup>1</sup> Over all death and disability related to Neurological diseases is higher than HIV/AIDS, neoplasms, ischaemic heart diseases and Tuberculosis. More than half of the disability due to neurological diseases is related to stroke followed by Dementias, Migraine, Epilepsy and tetanus.<sup>1</sup>

The burden of neurological diseases in developing countries is rising due to increasing life expectancy, urbanization of population and better diagnostic facilities. Although information on epidemiological aspects of neurological diseases is available from some developing countries like India, Sri Lanka and China but disease prevalence and pattern are based on geographical, social, cultural, religious, and ethnic factors it is vital to conduct these epidemiological studies in each country. A population based study conducted in India surveyed 102,557 individuals in Bangalore found 3355 individuals with neurological disorders per 100000 population. The most frequent disorders were headache, febrile convulsions, Epilepsy, Stroke and mental retardation.<sup>2</sup> Another study conducted in Saudi Arabia screened 23,227 Saudis. Overall crude prevalence of neurological disorders was 131/1000 population. Headache, epilepsy, febrile convulsions and mental retardation were common as compared to Stroke, Dementias and Parkinson's disease.<sup>3</sup>

The available information on the pattern and frequency of major neurological disorders in Pakistan is scanty and limited mainly to hospital-based populations who may not be totally representative of the community. The incidence or prevalence of major neurological diseases in our country is not known.<sup>4</sup> National health survey identified 33% prevalence of hypertension in age group of 45 or older.<sup>5</sup> There are 2.7 Million Diabetics and 20% adult men and women use pan or tobacco.<sup>5</sup> Although incidence of stroke or intracerebral haemorrhage is not known but due to high prevalence of cerebrovascular risk factors we can assume that it is no less than any western country.<sup>6</sup> Tetanus, rabies and polio are still prevalent in epidemic proportions despite availability of effective vaccines.<sup>7</sup> Epilepsy is amongst the most common serious neurological conditions. The global prevalence of epilepsy is generally taken as between 5 and 10 cases per 1000

persons. Overall prevalence of epilepsy in Pakistan is estimated to be 9.99 per 1000 population. Highest prevalence is seen in people younger than 30 years of age.<sup>8</sup>

The national health survey conducted by Pakistan Medical and Research Council was not designed to identify neurological diseases including stroke. The major reason for non inclusion was lack of a validated screening tool for neurological diseases in local language (personal communication). World Health Organization neurosciences programme devised a questionnaire and simple clinical tests to be carried out by health workers followed by assessment by neurologists (WHO 1981). This WHO protocol was modified to include a wider spectrum of neurological disorders and clinical examination by health workers had to be omitted due to non acceptance by the community in India.<sup>9</sup> This tool has not been tested and validated in Pakistan. Validation of this tool will be helpful for identification of neurological diseases in future national health surveys.

The lack of data regarding prevalence of neurological diseases in Pakistan translated into a health policy with little focus on neurological diseases. There are not more than 150 neurologists (one per million population) in Pakistan and only a few training programmes. More than half of medical colleges in Pakistan do not have a single neurologist or neurology programme. Majority of graduates completing Medicine residency and passing FCPS (Medicine) exams do not go through any structured neurology training throughout residency. Family physicians and General practitioners who are primarily responsible for primary care, report poor and very limited training in Neurology (un published data).

Accurate and quantifiable data on the health problems prevalent in a community are required to formulate objective and credible health policies for that environment. This implies to Neurological diseases in Pakistan. We believe that it is of utmost importance to identify point prevalence of neurological diseases in Pakistan by a national health survey for neurological diseases. This information will affect the health policies and funding related to prevention, research and treatment related to Neurological diseases in Pakistan.

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