



President's column

Neurodegenerative noncommunicable diseases (Neurology NCDs). Where are we now?



In 2006, *Neurological Disorders: Public Health Challenges* was published by the WHO, with World Federation of Neurology (WFN) participation [1]. It is clearly stated, “there is ample evidence that pinpoints neurological disorders as one of the greatest threats to public health”. Neurodegenerative disorders were well covered as a major challenge. Rita Levi-Montalcini, Nobel Laureate 1986, wrote the foreword to the book. She stated “the burden of neurological disorders is reaching a significant proportion of countries with a growing percentage of the population over 65 years old”.

Neurologists across the world deal with various disorders of the brain and the peripheral nervous system with vast numbers of individuals affected. Every year 15 million people worldwide suffer a stroke; nearly 6 million die; and 5 million are left permanently disabled. Every six seconds a stroke kills someone. Stroke claims more than twice as many lives as AIDS. In fact, stroke continues to be responsible for more deaths annually than those attributed to AIDS, tuberculosis and malaria combined. The burden of stroke now disproportionately affects individuals living in resource-poor countries. Epilepsy affects 50 million people across the world, and 7 out of 10 receive no medication. Parkinson's disease affects 6.3 million; MS affects 2.5 million; and, in addition, neurologists deal with monumental numbers of those complaining of headaches and all other disorders affecting the nervous system [2–4]. Moreover, the WFN has always applied the principle that there is “No health without brain health”.

One fifth of the Chinese population suffer from a neurological disorder and the increasing population age across the world is only going to exacerbate the problem. By 2050 there shall be 322 million individuals above the age of 65 in China [5]. If unchecked the most important and disabling group of noncommunicable diseases is not yet receiving the recognition it deserves in the WHO NCD programme. The field of neurodegenerative disorders is starting to receive funding in order to tackle such devastating conditions as dementia, Parkinsonism and epilepsy. The EU launched the Joint Programme-Neurodegenerative diseases in 2015 (JPcfuND) [6]. The WHO executive board, in December 2014 recognised epilepsy as one of the most common serious chronic neurological diseases affecting people of all ages globally. This was ratified by the decision of the World Health Assembly in May 2015.

Dementia, according to the recent Ministerial WHO meeting in Geneva, affects 47.5 million worldwide. One person is diagnosed every 40 s. This will treble by 2050 with a huge cost to society. All measures of prevention, research and care should receive the utmost support from all stakeholders especially the WHO and its collaborators.

The human and financial cost of neurodegenerative disorders is immense. The scientific and clinical care cost will be beyond the abilities of all of us by the year 2050 [7,8].

Treatment of neurological conditions has become increasingly more available for several diseases. Improved survival for stroke, progress in treatment of neuro-immunological diseases, treatment of epilepsy, and specific therapies for some genetic diseases are examples of progress in therapy of non-communicable neurological diseases [9–12].

Concerted efforts from basic science, neuroscience and neurology are needed to progress further. Neurologists worldwide are at the forefront to engage with patients in order to provide early diagnosis, treatment, care and, when available, cure. The role of neurology is instrumental in the provision of supportive care for patients with progressive diseases such as Parkinsonism, motor neurone disease, dementia and other neurodegenerative diseases. This concept involves caregivers, social support and palliative care.

We should tap into the EU Human Brain Project with a projected budget of 1.19 billion Euros. This inspired the USA into a similar initiative called Brain Research Advancing Innovative Neurotechnologies (BRAIN).

It is most encouraging that at this moment in time neuroscientists are working hard to understand the basic pathology of neurodegenerative diseases. This is absolutely fine, and the natural next step would be clinical application with therapeutic trials if we were to find a disease modifying therapy or even a cure. In the recent ministerial meeting on dementia at the WHO it was made clear that such trials are difficult to conduct and require time and commitment. It is also clear that researchers and clinicians cannot pursue one or two disorders without getting into the pathophysiology of several interconnected neurodegenerative processes. The neuropathological processes which involve alpha synuclein, tau and amyloid go beyond specific clinical diagnoses and have to be looked at in such a manner. Open research is what is being called for now and joining efforts not only in finding positive outcomes but also to avoid going down the same route previously looked at by others. We need to supplement and not duplicate research. This will move us in a more targeted and faster manner.

The field of NCDs prevention proposed by the WHO has four actions which include sugar reduction, salt restriction, alcohol intake reduction and smoking cessation. A focused reduction of these risk factors should help to combat the four conditions put up as the NCD targets, namely diabetes, cancer, cardiovascular diseases and chronic respiratory conditions. None of the neurological NCDs were included although targeting risk reduction for stroke, epilepsy and dementia are obvious examples of neurological NCDs, which at least in part are preventable [13] and can be tackled in the same manner [14].

Perhaps one fact needs to be emphasized at all levels. This was said best by Mr. Jeremy Hunt MP, the British Secretary of State for Health,

when he declared at the WHO Dementia conference in March this year that Neurological NCDs including dementia will bankrupt health budgets across the world. This crucial message should be hammered home at all levels for those working in Neurology across the globe so that the necessary resources can be allocated now to avoid this inevitable situation. No action is not an option [15].

It is most heartening to see our close collaboration between the WFN and WHO flourishing and progressing. This cooperation is evident not only in the field of NCDs but also in the new ICD11 project and the second edition of the Neurology Atlas which will be published in November 2015 during the forthcoming World Congress of Neurology. The contributions of the WHO have changed from a mainly prevention mode to disease management, and this is a most welcome development.

The WFN representing 117 neurological associations in six world regions with over 45,000 neurologists is in the forefront in combating these fatal and most disabling noncommunicable diseases. It provides the worldwide network of neurologists, with education through many means. The activities include, biennial world congresses, teaching courses, and regional training programmes for education in accredited teaching centres. The WFN also provides one third of its annual budget for grants, which are targeted at promoting neurological education and clinical research. All this is further buttressed by the provision of scientific publications, namely the *Journal of the Neurological Sciences (JNS)* and *eNeurologicalSci* to update and facilitate scientific exchanges, which forms the basis of progress and achievement for improved neurological care. *World Neurology* is our bimonthly magazine reporting on issues of interest to neurologists and providing information and a point of contact.

The WFN is engaged in the combat of noncommunicable neurological diseases and is ready to provide the global platform for this task.

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