

# Author's Accepted Manuscript

Global Burden of Paediatric Neurological Disorders

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PII: S1071-9091(18)30010-X

DOI: <https://doi.org/10.1016/j.spen.2018.03.002>  
10.1016/S0140-6736(15)61340-X  
10.1111/jcpp.12186  
10.1016/S0140-6736(12)61680-8  
10.1136/archdischild-2012-30282  
10.1371/journal.pone.0116820  
10.1177/0883073809357792

Reference: YSPEN711

To appear *Seminars in Pediatric Neurology*  
in:

Cite this article as: Charles Richard Newton, Global Burden of Paediatric Neurological Disorders, *Seminars in Pediatric Neurology*, doi:10.1016/j.spen.2018.03.002

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**Global Burden of Paediatric Neurological Disorders**

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**Abstract**

Neurological conditions in children represent a significant proportion of the global burden of disease, since they contribute to premature mortality and years lived with disability. The burden of neurological conditions, as measured by the total Disability Adjusted Live Years (DALYs) has decreased significantly over the last 25 years (1990-2015), mainly due to the reduction in the mortality, as the Years Lived with Disability (YLD) has increased slightly. However in some regions of the world, notably South Asia and sub-Saharan Africa, the burden remains high, driven by the high incidence of prematurity, neonatal encephalopathy and infections of the central nervous system.

*Introduction*

The burden of disease is the impact of a health condition, measured by epidemiological methods, quality of death and/or financial costs. It allows comparisons of diseases and conditions between the sexes, different age groups, geographical areas and chart secular trends. It is used for advocacy, identifying high-risk populations, prioritizing actions in health, planning preventive measures, assessing healthcare systems and interventions. Neurological disorders in children have received relatively little attention in the global burden of disease, but given their incidence and years lived with a disability, these conditions are likely to have a significant contribution to the global burden of diseases (GBD).

*Measurement*

The standard epidemiological measures such as prevalence (i.e. the number of cases identified at a particular point or sometimes over a period i.e. period prevalence) divided by the denominator, incidence (number of new cases per unit time) and mortality provide useful data, but do not describe the full impact of neurological conditions, particularly in terms of morbidity and disability.

To provide a more encompassing measure of the impact of conditions, Disability Adjusted Life Years (DALY) were devised in the 1990s to measure the global burden of disease (GBD)(Murray & Lopez, 1994). The DALY is a single value for a condition to facilitate comparisons between geographical area, ages and time periods. It was based upon four principles: i) inclusion of health outcomes that represent a loss of welfare; ii) characteristics of the individual affected by a health outcome are restricted to age and sex, since these demographic variables are most reliably recorded; iii) consider health outcomes equal throughout the world, i.e. a life is worth the same throughout the world; and iv) time is the unit of measurement, since it can be applied to many different conditions (Murray, 1994).

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