



## Commentary

# Migraine is the highest disabler among neurological disorders

Thaiza Agostini Córdoba de Lima 

Hospital Albert Einstein, São Paulo, Brazil



thaiza\_lima2@hotmail.com

Neurological disorders are one of the most prevalent disorders with a high impact on patients, their families and society. The first accurate estimate of the burden of this group of diseases was published in *The Lancet Neurology* papers in 2019, with data derived from the Global Burden of Disease, Injuries, and Risk Factors 2016 Study (GBD 2016). Newly available clinical data were incorporated and published in *JAMA Neurology* in November 2020.<sup>1</sup>

The analyses estimated prevalence, incidence, deaths, and disability-adjusted life-years (DALYs) by age and sex for 15 neurological disorder categories, including communicable and noncommunicable conditions, in 195 countries. The first publication included data from 1990 to 2016, the second added 2017 data.<sup>1,2</sup>

In 2016, neurological disorders were the leading cause of DALYs and second leading cause of deaths. Stroke was the largest contributor to global neurological DALYs, responsible for 42.2% (95% UI 38.6–46.1) followed by migraine (16.3% [11.7–20.8]). In 2017, while the US-wide age-standardized incidence, prevalence, mortality, and DALY rates of most neurological disorders declined or remained flat from 1990 through 2017, the absolute number of incident cases, prevalent cases, mortality, and DALYs increased, except for meningitis and encephalitis.

Through data from the GBD study headache has emerged as a major global public health concern. Headache, and in particular, migraine, is one of the main causes of disability worldwide, particularly in young adult and middle-aged women. Through analyzes of changes in the burden from 1990 to 2017, it is noted that there were very few changes in the rates of migraine and TTH. Therefore, despite the growing recognition of the impact of headache, effective measures are not being taken to reduce it. Actually, in this last analysis, migraine appears as leading causes of DALYs. Regarding the incidence and prevalence, TTH appears as the first neurological condition, followed by migraine.

The five leading causes of DALYs (rates) were migraine (705 [95% UI, 446-1021] per 100.000 population per year), stroke (692 [95% UI, 625-759] per 100.000 population per year), Alzheimer's disease (AD) and other dementias (419 [95% UI, 399-439] per 100.000 population per year), idiopathic epilepsy (124 [95% UI, 75-187] per 100.000 population per year), and brain and other nervous system cancers (120 [95% UI, 111-138] per 100.000 population per year).

The five most prevalent neurological conditions were: TTH (121.6 [95% UI, 110-133] million people), migraine (68.5 [95% UI, 64-73] million people), stroke (7.8 [95% UI, 7.4-8.2] million people), AD and other dementias (2.9 [95% UI, 2.6-3.2] million people), and SCI (2.2 [95% UI, 2.0-2.3] million people). The highest incidence was of new-onset TTH (44.5 [95% UI, 40.0-48.8] million cases per year) followed by migraine (5.0 [95% UI, 4.6-5.5] million cases per year).

In conclusion, headache disorders (TTH and migraine) were the top conditions in prevalence and incidence in the US. Migraine was the highest disabler among neurological conditions. These data may also be replicated in other countries, including Brazil. Further attention to headache disorders is needed in public policies not only in the US but worldwide.

## References

1. GBD 2017 US Neurological Disorders Collaborators. Burden of Neurological Disorders Across the US From 1990-2017: A Global Burden of Disease Study. *JAMA Neurol.* 2020 Nov 2:e204152.
2. GBD 2016 Neurology Collaborators. Global, regional, and national burden of neurological disorders, 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016. *Lancet Neurol.* 2019;18(5):459-80.

Received: October 7, 2020  
Accepted: November 14, 2020