PubMed

Format: Abstract

Full text links

ELSEVIER OPEN ACCESS

Lancet Neurol. 2019 Apr;18(4):357-375. doi: 10.1016/S1474-4422(18)30454-X. Epub 2019 Feb 1

Global, regional, and national burden of epilepsy, 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016.

GBD **2016** Epilepsy Collaborators.

Collaborators (109)

Abstract

BACKGROUND: Seizures and their consequences contribute to the **burden** of epilepsy because they can cause health loss (premature mortality and residual disability). Data on the **burden** of epilepsy are needed for health-care planning and resource allocation. The aim of this **study** was to quantify health loss due to epilepsy by age, sex, year, and location using data from the **Global Burden** of Diseases, Injuries, and Risk Factors **Study**.

METHODS: We assessed the **burden** of epilepsy in 195 countries and territories from 1990 to **2016**. **Burden** was measured as deaths, prevalence, and disability-adjusted life-years (DALYs; a summary measure of health loss defined by the sum of years of life lost [YLLs] for premature mortality and years lived with disability), by age, sex, year, location, and Socio-demographic Index (SDI; a compound measure of income per capita, education, and fertility). Vital registrations and verbal autopsies provided information about deaths, and data on the prevalence and severity of epilepsy largely came from population representative surveys. All estimates were calculated with 95% uncertainty intervals (UIs).

FINDINGS: In **2016**, there were 45·9 million (95% UI 39·9-54·6) patients with all-active epilepsy (both idiopathic and secondary epilepsy globally; age-standardised prevalence 621·5 per 100 000 population; 540·1-737·0). Of these patients, 24·0 million (20·4-27·7) had active idiopathic epilepsy (prevalence 326·7 per 100 000 population; 278·4-378·1). Prevalence of active epilepsy increased with age, with peaks at 5-9 years (374·8 [280·1-490·0]) and at older than 80 years of age (545·1 [444·2-652·0]). Age-standardised prevalence of active idiopathic epilepsy was 329·3 per 100 000 population (280·3-381·2) in men and 318·9 per 100 000 population (271·1-369·4) in women, and was similar among SDI quintiles. **Global** age-standardised mortality rates of idiopathic epilepsy were 1·74 per 100 000 population (1·64-1·87; 1·40 per 100 000 population [1·23-1·54] for women and 2·09 per 100 000 population [1·96-2·25] for men). Age-standardised DALYs were 182·6 per 100 000 population (149·0-223·5; 163·6 per 100 000 population [130·6-204·3] for women and 201·2 per 100 000 population [166·9-241·4] for men). The higher DALY rates in men were due to higher YLL rates compared with women. Between 1990 and **2016**, there was a non-significant 6·0% (-4·0 to 16·7) change in the age-standardised prevalence of idiopathic epilepsy, but a significant decrease in age-standardised mortality rates (24·5% [10·8 to 31·8]) and age-standardised DALY rates (19·4% [9·0 to 27·6]). A

third of the difference in age-standardised DALY rates between low and high SDI quintile countries was due to the greater severity of epilepsy in low-income settings, and two-thirds were due to a higher YLL rate in low SDI countries.

INTERPRETATION: Despite the decrease in the **disease burden** from 1990 to **2016**, epilepsy is still an important cause of disability and mortality. Standardised collection of data on epilepsy in population representative surveys will strengthen the estimates, particularly in countries for which we currently have no or sparse data and if additional data is collected on severity, causes, and treatment. Sizeable gains in reducing the **burden** of epilepsy might be expected from improved access to existing treatments in low-income countries and from the development of new effective drugs worldwide.

FUNDING: Bill & Melinda Gates Foundation.

PMID: 30773428 DOI: 10.1016/S1474-4422(18)30454-X

Free full text

LinkOut - more resources