

Worldwide stroke rates dip slightly over time, but overall numbers still high

December 15 2021



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The worldwide incidence and mortality rates for stroke decreased slightly from 1990 to 2019, but the overall numbers are still high, especially in high- and middle-income countries, according to a study published in the December 15, 2021, online issue of *Neurology*, the medical journal of the American Academy of Neurology. The study

focused on ischemic stroke, which is caused by blood clots and makes up 85% of stroke cases.

"The decrease is likely due to better medical services available in [high-income countries](#), which may offer earlier detection of stroke risk factors and better control of these risk factors," said study author Liyuan Han, Ph.D., of the University of Chinese Academy of Sciences in Ningbo, China. "But even in these countries, the total number of people with strokes is increasing due to population growth and aging. And worldwide stroke is the leading cause of [death](#) and a major cause of disability for adults."

For the study, researchers analyzed data from 1990 to 2019 from the Global Health Data Exchange. During that time, the average age-adjusted incidence rate of stroke decreased by 0.43%, from a rate of 105 strokes per 100,000 people to 95 strokes per 100,000 people. The rate was higher in middle- and high-middle-income countries than in other areas.

At a regional level, the highest rates were in East Asia with 144 per 100,000 and North Africa, the Middle East and Eastern Europe with rates of 135. The lowest region was Australasia at 44 strokes per 100,000 people. At a country level, the highest rates were in the United Arab Emirates at 208, Macedonia at 187 and Jordan at 181. The lowest rates were in Ireland at 36, Nepal at 37 and Switzerland at 38 strokes per 100,000 people.

Egypt and China had the most pronounced increases in stroke rates, with an increase of 1.4% in Egypt and 1.1% in China.

Similar to the stroke occurrence rate, the rate of death from stroke decreased slightly over the three decades, or by 1.6%, but the overall numbers were high. The death rate decreased from 66 deaths per

100,000 people to 44 deaths per 100,000 people. The highest death rates were in Eastern Europe, with a rate of 100, Central Asia at 79 and Central Europe at 67. The lowest rates were in high-income North America at 16, Australasia at 17 and high-income Asia Pacific at 18.

"Since [ischemic stroke](#) is highly preventable, it is essential that more resources be devoted to prevention, especially in low- and [middle-income countries](#) where economic development is leading to changes in diet and lifestyle that may increase people's risk factors for [stroke](#)," Han said. "It has been estimated that at least half of all strokes may be preventable if effective changes were made to common lifestyle factors such as high blood pressure, obesity, smoking and inactivity."

A limitation of the study was that quality and accuracy of data from some underdeveloped countries cannot be guaranteed as many did not have reliable information on deaths and strokes.

Provided by American Academy of Neurology

Citation: Worldwide stroke rates dip slightly over time, but overall numbers still high (2021, December 15) retrieved 14 May 2024 from <https://medicalxpress.com/news/2021-12-worldwide-dip-slightly-high.html>

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