

# Study reveals sharp rise in stroke cases among young adults in Oxfordshire

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New research has shown a sharp increase in the incidence of stroke in young adults, in a study of more than 94,000 people in Oxfordshire.

Stroke is a major health problem that can have devastating consequences. It happens when the blood supply to the brain is cut off,

causing the death of brain cells and dysfunction in one or more parts of the brain. The restricted blood supply can be the result of an artery supplying blood to brain becoming blocked, a blood vessel rupturing causing a bleed inside the brain, or a brief reduction in the blood supply to the brain.

Findings from this new study, which analyzed the rate of new stroke cases in Oxfordshire over the last 20 years, reflect emerging evidence that young stroke is a growing problem in high-income countries.

The traditional view is that vascular risk factors, such as high blood pressure, diabetes and obesity, play a minor role in young stroke, but recent studies have begun to contradict this view.

Thanks to a research fellowship from the Foundation, Dr. Linxin Li from the University of Oxford is investigating the role of these treatable risk factors in young stroke.

Dr. Li's research focuses on multiple types of stroke, such as ischaemic strokes, caused by a blockage of arteries, 'mini-strokes' (transient ischaemic attacks) and bleeding in the brain (intracerebral hemorrhage and subarachnoid hemorrhage).

This new study, led by researchers from the Nuffield Department of Clinical Neuroscience at the University of Oxford, is [published in a recent issue](#) of the journal *JAMA*.

The researchers explored whether stroke incidence in younger and older people changed from 2002 to 2018, drawing on data from The Oxford Vascular Study, which comprises 94,567 people registered with GP practices across Oxfordshire.

Incidence refers to the number of people who develop a specific disease

or health-related event—in this case stroke—during a particular time period.

The researchers also took into account other factors, such as lifestyle, changes in diagnostic practices, control of traditional vascular risk factors, and sex-specific causes of stroke.

They found that between 2002-2010 and 2010-2018, there was a 67 percent increase in stroke incidence among younger adults (under 55 years), and a 15 percent decrease among older adults (55 years or older). A similar divergence in incidence was not found for other vascular events, such as heart attacks.

Among young people who had a stroke, there was a significant increase in the proportion who were in more skilled occupations, particularly for professional or managerial jobs. This could suggest a role for work-related stress, low physical activity, and long working hours, each of which were more strongly associated with risk of stroke than heart attack.

The prevalence of traditional vascular risk factors in young people with stroke was also high, emphasizing the importance of identifying and managing these risk factors.

A [linked paper](#) in the current October issue of *JAMA Neurology*, by the same authors, showed similar divergent trends across other high-income countries in the 21st century, with a fall in incidence at older ages not being seen at younger ages.

Medical Research Foundation Fellow, Dr. Linxin Li from the University of Oxford, said: "Our study shows a worrying rise in young stroke cases across Oxfordshire, reflecting a similar picture across other high-income countries."

"Establishing the importance of known risk factors in young stroke will help to raise general awareness of the need for better control. We also need better ways of identifying young people at high risk of stroke, as current risk models are based on predictors of stroke in older people."

Dr. Angela Hind, Chief Executive of the Medical Research Foundation, said: "Historically, we've thought of stroke as only affecting older adults, but studies like this suggest a growing problem in young adults."

"Stroke in young adults can have a huge impact, often occurring when they are starting a family or already have young children to look after, and have yet to reach the peak of their careers. The economic, social and personal consequences can be devastating. More research needs to be done to increase understanding of the causes of young stroke and the best ways of preventing it. This is why we're supporting researchers like Dr. Li, who are pushing forward the boundaries of knowledge surrounding young stroke."

**More information:** Linxin Li et al, Association of Younger vs Older Ages With Changes in Incidence of Stroke and Other Vascular Events, 2002-2018, *JAMA* (2022). [DOI: 10.1001/jama.2022.12759](https://doi.org/10.1001/jama.2022.12759)

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