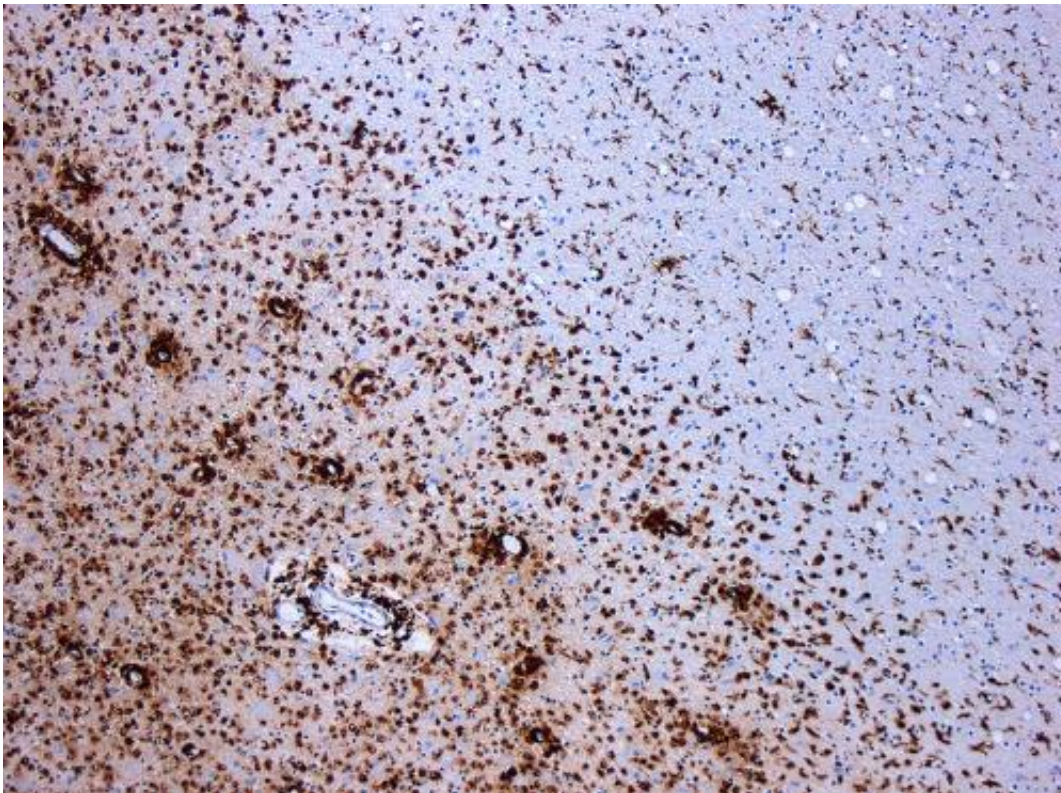


# New role of environment in multiple sclerosis revealed

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Demyelination by MS. The CD68 colored tissue shows several macrophages in the area of the lesion. Original scale 1:100. Credit: [CC BY-SA 3.0](https://creativecommons.org/licenses/by-sa/3.0/) Marvin 101/Wikipedia

Environmental factors may be playing a much greater role in the onset of multiple sclerosis (MS) than previously realised, according to early research led by Queen Mary University of London and Barts Health

NHS Trust.

The theory is based on new findings showing that Black people and South Asians in east London have a higher prevalence of MS compared to those groups in their ancestral countries, indicating a strong environmental influence on the disease that could be driving higher MS rates in London.

MS is a neurodegenerative disease of the central nervous system, and the most common chronic non-traumatic cause of disability in young adults. The cause of MS is unknown although evidence suggests there are various contributing factors, both genetic and environmental.

Studies suggest that ethnicity may be a risk factor, with incidence and prevalence rates generally higher in White populations than in other ethnic groups. Environmental factors appear to include viral infections and vitamin D deficiency.

Study lead Dr Klaus Schmierer said: "MS is a disease where genetic ancestry and [environmental factors](#) play a role, however to what degree these two aspects are driving the risk of developing MS remains unknown.

"We found that people of Asian and African extraction in London are far more likely to have MS than people of the same ethnicity living in their ancestral countries. Our early results suggest that environmental factors play a pivotal role in the risk of developing MS, whilst the individual genetic backdrop may be of lesser importance."

The study, published by SAGE in *Multiple Sclerosis Journal*, used electronic records from general practices (GPs) in four east London boroughs (Tower Hamlets, Newham, Hackney and City of London) which were queried for the number of MS-diagnosed patients, grouped

by ethnicity.

Of 907,151 patients registered with GPs in east London, 776 had a diagnosis of MS. The overall prevalence of MS in east London was 111 per 100,000 (152 for women and 70 for men). The prevalence per 100,000 was 180 for the White population, 74 for Black people and 29 for South Asians.

MS appeared to be several times more prevalent among Black people and South Asians living in London compared to those groups living in their ancestral territory. Even the highest prevalence reported for any sub-Saharan African country, 0.24/100,000 in Ghana, is a small fraction of the prevalence of MS in Black people in east London (74/100,000). MS prevalence for people living in India (7/100,000) or Pakistan (5/100,000) was also much lower than for South Asians living in east London (29/100,000).

While prevalence differences could be explained by fewer MS diagnoses occurring in less resourced countries, Dr Schmierer says that it is unlikely to explain the gulf in prevalence between these territories. The researchers say that an alternative, or additional, explanation would be increased exposure in the UK to environmental agents or behaviours that facilitate the development of MS. Follow-up studies are planned by the team to further investigate these findings.

Dr Klaus Schmierer added: "If we can clearly define the cluster of risk factors, and their proportional relevance, measures could be developed to change or remove these factors - thereby potentially eradicating MS, which is our ultimate goal."

The findings only apply to east London, and must be interpreted with caution if generalised to the rest of the UK. Due to the possibility of some people with MS being missed in GP datasets, the researchers say

they are likely to have underestimated prevalence estimates by approximately a quarter, but that there is little risk for biases in data by ethnicity.

**More information:** 'Ethnicity and prevalence of multiple sclerosis in east London' by Christo Albor, Timothy du Sautoy, Narmadha Kali Vanan, Benjamin P Turner, Kambiz Boomla and Klaus Schmierer. *Multiple Sclerosis Journal*. [DOI: 10.1177/1352458516638746](https://doi.org/10.1177/1352458516638746)

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