

For immigrants to Canada, risk of multiple sclerosis increases with proportion of life spent there

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Immigrants to Canada who have spent a greater proportion of their lives in Canada have a greater risk of developing multiple sclerosis (MS) than people who have spent a smaller proportion of their lives there, according to a study published in the April 24, 2024, online issue of *Neurology*. The study does not prove that an increased proportion of life

in Canada causes MS; it only shows an association.

"Other studies have shown that immigrants tend to have better health than long-term residents, which is thought to be because healthy people are more likely to choose to immigrate," said study author Manav V. Vyas, MBBS, MSc, Ph.D., of St. Michael's Hospital in Toronto, Canada and a member of the American Academy of Neurology.

"We wanted to see if the lower risk of MS declines over time as people adopt some of the unhealthy lifestyles of their new country or are exposed to other environmental factors that increase their risk."

The study involved 1.5 million immigrants who arrived in Canada between 1985 and 2003 and were covered by [health insurance](#) for at least two years with no diagnosis of MS. The people were then followed through 2016.

During that time, 934 people were diagnosed with MS. This is a rate of 0.44 cases per 100,000 person-years. The overall rate of MS in Canada based on previous research is estimated to be 15 to 17 cases per 100,000 person-years. Person-years represent both the number of people in the study and the amount of time each person spends in the study.

The person's age at arrival in Canada and the amount of time since they immigrated were used to determine the proportion of life spent in Canada. Overall, people had spent an average of 20% of their lives in Canada.

Researchers found that people who had spent 70% of their lives in Canada were 38% more likely to develop MS than people who had spent 20% of their lives there. This result took into account other factors that could affect the risk of MS, such as sex, age and other [health conditions](#).

The researchers did not find any differences between men and women or based on which of Canada's immigration classes people belonged to: family, refugee or economic.

"Our data did not include information on various environmental factors associated with MS, but our theories include that this increase in the risk of MS over time may be due to lifestyle factors such as higher rates of smoking and changes in diet, [environmental factors](#) such as sunlight exposure and [biological factors](#) such as the composition of the gut microbiome that have been previously associated with an increased risk of MS," Vyas said.

"Some immigrants may be more susceptible to these risk factors due to social determinants of health such as income, education, neighborhood and access to nutritious food."

A limitation of the study is that new cases of MS were determined by use of the health care system, and immigrants may differ from non-immigrants in seeking care for their symptoms by [cultural background](#), age, time spent in the country, familiarity with language or other factors related to the health care system.

More information: *Neurology* (2024).

Provided by American Academy of Neurology

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