

Medical Update Memo

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Study reports regional variation of MS rates across Canada

SUMMARY

Researchers at the University of Calgary reported significant regional differences among prevalence rates of MS across Canada based on data from the Canadian Community Health Survey, a population-based general health survey. The study appeared in the October 2005 issue of the journal *Multiple Sclerosis* (2005: 11). The study found higher rates in the Prairies and Atlantic Canada. Prevalence rates ranged from a low of 180 people with MS per 100,000 population in Quebec to a high of 350 per 100,000 in Atlantic Canada. The regional variations among MS prevalence should be helpful in investigating possible environmental influences on the development of MS.

DETAILS

Canada is known as having a prevalence rate of multiple sclerosis that is among the highest in the world. Prevalence is the number of known cases existing at one time within a particular population (region, city or country). In MS, prevalence rates are usually classified as high (greater than 30 cases per 100,000 population), medium (between five and 29 cases per 100,000) and low (less than five per 100,000).

Previous studies of MS prevalence in Canada have ranged from 55 to 240 per 100,000. They have been generally confined to specific geographic areas and were not easily comparable because of differences in methodology.

The researchers at the University of Calgary (Dr. Cynthia Beck, Dr. Luanne Metz, and Dr. Scott Patten) and Alberta Health and Wellness (Lawrence Svenson) reported the results of their research in the October 2005 issue of the journal *Multiple Sclerosis* (2005: 11). They used data from the Statistics Canada 2001 Canadian Community Health Survey (CCHS) to

compare MS prevalence across regions at a single time point, taking demographics into account. CCHS was a population-based general health survey in which 131,535 Canadians were contacted using a Statistics Canada developed sampling design. The data provided information on MS (self reported), age, sex, immigration status and ethnicity. Multiple sclerosis was among a number of medical conditions on which data was collected in the survey. For the MS prevalence analysis, the researchers used data from survey respondents who were 18 and older (total 116,109). A total of 332 respondents reported a diagnosis of MS.

According to the study researchers, the overall weighted estimate of MS prevalence in Canada was 240 per 100,000. Prevalence was also reported by region: British Columbia - 240 per 100,000; Prairie region - 340 per 100,000; Ontario - 230 per 100,000; Quebec - 180 per 100,000; Atlantic region - 350 per 100,000. Because of the small numbers involved, prevalence was not broken out by province within the Prairie and Atlantic regions.

The researchers conducted a number of modeling analyses to adjust for age and sex and also tested the prevalence findings against a smaller Canadian-born, non-aboriginal group (total 96,219) within the original data set. These results confirmed higher MS prevalence rates in the Atlantic and Prairie regions.

According to Dr. William J. McIlroy, MS Society National Medical Advisor, the study provides a new way of looking at MS prevalence rates. Of particular note and a new contribution to knowledge about MS are the variations in MS rates across the country. These regional variations among MS prevalence should be helpful in investigating possible environmental influences on the development of MS.

Added Dr. Luanne Metz, one of the researchers, "The study results support the existence of an environmental factor or factors independent of latitude. Looking at differences in the environment between these regions may help us uncover additional factors that influence MS risk. In Canada, this can be done as we are well organized, supported by the MS Society of Canada and the population and socio-demographic influences between regions varies relatively little but can be accounted for."

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