



CIHR Team in the Epidemiology and Impact of Comorbidity of MS in Canada (ECOMS)

BRIEFING JANUARY 2017

SPECIAL POINTS OF INTEREST

1. Comorbidity is the co-existence of two or more health conditions.
2. Physical and psychiatric comorbidities affect more than 50% of people with MS.⁹
3. Before the inception of ECOMS, little was known about the impact of comorbidity in MS.

The ECOMS Research Program

- ◆ Multiple sclerosis (MS) is a chronic disease of the brain, optic nerves & spinal cord, estimated to affect over 93,000 Canadians & over 2.5 million persons worldwide.^{1,2}
- ◆ MS is the most common non-traumatic cause of disability in young adults,³ and the societal costs of MS exceed those for stroke or Alzheimer's disease.⁴
- ◆ **The ECOMS team came together in 2009 with the long-term goal of improving the health of persons with MS by reducing the impact of comorbidity.**

Sources of Information

ECOMS uses two main sources of information:

1. Provincial Administrative Health Data:

Each provincial resident is assigned a Personal Health Identification Number which is attached to all hospital, physician, and/or prescription claims submitted to the Health Authority of their respective Province.

2. Longitudinal Cohort: From 2010 to

2014, 949 MS patients were recruited from four MS clinics across Canada: Alberta, British Columbia, Manitoba and Nova Scotia. Each participant completed specific questionnaires at three points during a two year period. Clinical data were obtained from medical records.

Prevalence of MS in Nova Scotia

- ◆ The number of new MS diagnoses in NS has remained stable from 1995 to 2010, averaging 10 new cases per 100,000 people per year. This number is similar to other Canadian Provinces, but high relative to other parts of the world.⁵
- ◆ The prevalence (# of persons with MS/100,000 people) of MS in NS has risen steadily over the past 20 years. In 2010, the prevalence of MS was 267 per 100,000 people.⁵
- ◆ This rising prevalence of MS in NS is probably a reflection of longer disease duration, due to earlier diagnosis, and improved survival for persons with MS.⁵

Vascular Comorbidities

- ◆ Vascular comorbidities (e.g. diabetes, high cholesterol, high blood pressure, heart disease) are associated with a higher rate of disability progression in MS.⁶
- ◆ Men and those at older ages are at increased risk of developing vascular comorbidities.⁶
- ◆ The number of newly diagnosed cases of diabetes and high cholesterol in the MS population has risen steadily over 10 years.⁶
- ◆ Young adults with MS are 59% more likely to develop Heart Disease, compared to young adults without MS. This is concerning given that persons with MS are more likely to smoke, be overweight, obese, and be less physically active than the general population.⁶

To decrease the burden of vascular comorbidities in MS, we need to change the way in which we deliver care to this population. Increasing health promotion strategies and using collaborative models of care could prove successful strategies.

Comorbidity at Diagnosis

- ◆ The burden of comorbidity increases as the age of diagnosis increases.⁷
- ◆ Comorbidity is more common in MS than the general population, even at the time of diagnosis.⁷
- ◆ At MS diagnosis the most common comorbidities were depression (19%) followed by high blood pressure (15%), chronic lung disease (12%) and anxiety (11%).⁷

Psychiatric comorbidities (e.g. depression and anxiety) are the most common and burdensome pre-existing conditions at the time of MS diagnosis. Providing support to manage these conditions may improve quality of life, adherence to medication and decrease health care use among MS patients.

Disease Modifying Therapy (DMT)

- ◆ The higher the number of comorbidities, the less likely a person is to initiate DMT for MS.⁸
- ◆ 30% of participants in the study initiated DMT. Women and those in younger age groups were more likely to initiate DMT.⁸
- ◆ Socioeconomic status did not affect DMT initiation rates.⁸
- ◆ When looking at individual comorbidities, people with heart disease were 28% less likely to start DMT.⁸
- ◆ People with anxiety were 22% less likely to initiate treatment. Anxiety can impair communication between patients and doctors, and interfere with a person's ability to manage their prescribed medications.⁸

People with MS and multiple comorbidities likely require more health services and more complex health management strategies. We need to optimize treatment approaches for patients with MS and comorbidities, by better supporting individual needs within the health care system.

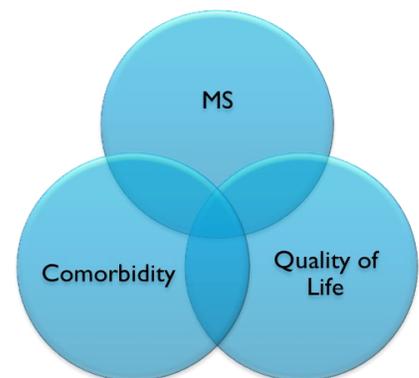
Pain and MS

- ◆ While pain is a concern for all persons with MS, it is more so for those with comorbidities.⁹
- ◆ Over the course of two years, 31% of participants in our study developed levels of pain that disrupted normal activities in their life.⁹
- ◆ Fibromyalgia, rheumatoid arthritis, Irritable Bowel Syndrome, migraine, chronic lung disease, depression, anxiety, hypertension, and high cholesterol were all associated with high levels of disruptive pain.⁹

Better management of these comorbid conditions may be an effective way of reducing pain and may lead to significant improvements in quality of life for persons with MS. It is important to encourage health care professionals to inquire about these conditions every time they see patients.

Quality of Life (QOL)

- ◆ MS has a strong influence on QOL, but it's not just neurologic disability that is responsible for this.¹⁰
- ◆ Other medical conditions, particularly anxiety and depression, have significant effects as well. These conditions often co-occur and have an impact on important symptoms, like fatigue, which in turn affect QOL.¹⁰
- ◆ Physical comorbidity (e.g. hypertension, migraine, high cholesterol, etc.) worsens symptoms of depression, anxiety, and fatigue, all of which are key determinants of QOL in MS.¹⁰



We need to think about treating all these conditions together to obtain meaningful improvements in the QOL of people with MS.

References

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