

### CASE STUDY

Ethnic differences possibly influence risk of multiple sclerosis development in the young?



DERIVING BEAUTIFUL INSIGHTS

#### Blackcoffer

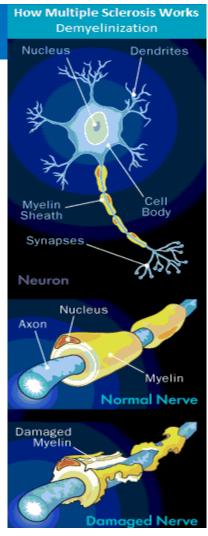
# About



Multiple sclerosis (MS) is a potentially disabling disease of the brain and spinal cord (central nervous system).

In MS, the immune system attacks the protective sheath (myelin) that covers nerve fibers and causes communication problems between your brain and the rest of your body. Eventually, the disease can cause the nerves themselves to deteriorate or become permanently damaged.

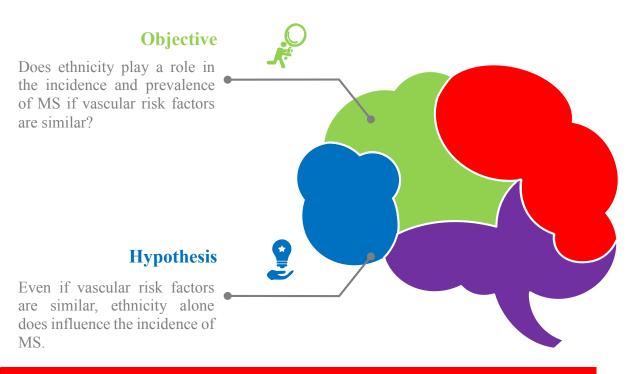
Signs and symptoms of MS vary widely and depend on the amount of nerve damage and which nerves are affected. Some people with severe MS may lose the ability to walk independently or at all, while others may experience long periods of remission without any new symptoms.



#### MS Symptoms:



# Objective and Hypothesis



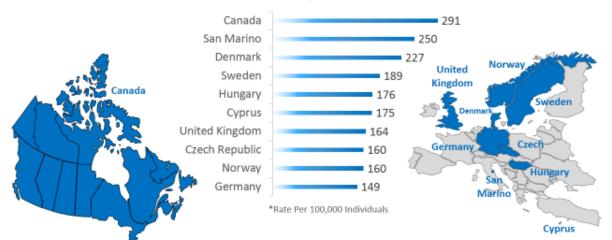
## Design and Procedure

- Data were collected between 1990-2017 from databases (NIH, Truven, etc.).
- Caucasian and non-Caucasian (African-Americans, Hispanics) individuals who were diagnosed with MS and were between the ages of 15-45 were included in this analysis.
- Patients who had MS also had to have the following vascular risk factors,
  - o Hypertension,
  - o Hypercholesterolemia,
  - o Diabetes,
  - o BMI > 30,
  - Heart disease and
  - o Smoking.
- Incidence rates between the two cohorts were calculated using Poisson regression.
- ↓ Data was also collected to reflect any influence of gender.

# **III** Findings

### MULTIPLE SCLEROSIS







Ratio of women with MS to men may be as high as "three or four to one."



\*Rate per 100,000 individuals

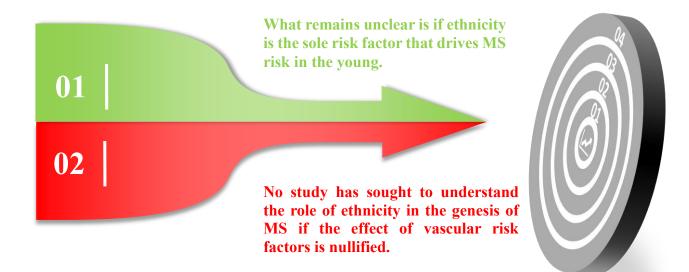
15% have one or more family members or relatives who also have MS.

Identical twins have a 1 in 3 chance to also have the disease.



#### Background

Multiple sclerosis (MS) is thought to be a predominantly autoimmune disease. Several studies have reported an increased cardiovascular morbidity in MS patients and that vascular comorbidity at any time during the disease course could increase the risk of progressive disability. It has been established that African-Americans have a higher risk of MS across but





Blackcoffer

E-mail: hello@blackcoffer.com Phone: +91 971-736-7468 Skype: asbidyarthy

Website: www.blackcoffer.com

ASIA (India) Blackcoffer (OPC) Pvt. Ltd. 1st Floor, Plot No. 3, OM Vihar Phase 1 Uttam Nagar West New Delhi - 110059 India European Union (Malta) Blackcoffer Europe Ltd. 38, St. James Street, Qawra St. Paul's Bay Malta, Europe

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