MULTIPLE SCLEROSIS IN THE AFRICAN-AMERICAN POPULATION

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### Average annual incidence rates per 100,000 population by sex and major race groups in Gulf War era multiple sclerosis cohort, Department of Defense

<table>
<thead>
<tr>
<th>Sex/race group</th>
<th>Multiple sclerosis cases total, Department of Defense</th>
<th>Average annual population at risk</th>
<th>Average annual incidence rate per 100,000 (95% CI—Poisson)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total males</td>
<td>1,740</td>
<td>1,321,514</td>
<td>7.31 (6.98–7.67)</td>
</tr>
<tr>
<td>Total females</td>
<td>898</td>
<td>202,044</td>
<td>24.69 (23.10–26.36)</td>
</tr>
<tr>
<td>Total all groupsb</td>
<td>2,638</td>
<td>1,523,563c</td>
<td>9.62 (9.26–9.99)</td>
</tr>
<tr>
<td>White males</td>
<td>1,245</td>
<td>950,100</td>
<td>7.28 (6.88–7.69)</td>
</tr>
<tr>
<td>White females</td>
<td>547</td>
<td>117,846</td>
<td>25.79 (23.67–28.04)</td>
</tr>
<tr>
<td>Total whites</td>
<td>1,792</td>
<td>1,067,946</td>
<td>9.32 (8.90–9.76)</td>
</tr>
<tr>
<td>Black males</td>
<td>358</td>
<td>236,504</td>
<td>8.41 (7.56–9.33)</td>
</tr>
<tr>
<td>Black females</td>
<td>293</td>
<td>61,789</td>
<td>26.34 (23.41–29.54)</td>
</tr>
<tr>
<td>Total blacks</td>
<td>651</td>
<td>298,293</td>
<td>12.13 (11.21–13.09)</td>
</tr>
<tr>
<td>Other race malesd</td>
<td>137</td>
<td>134,906</td>
<td>5.64 (4.74–6.67)</td>
</tr>
<tr>
<td>Other race femalesd</td>
<td>58</td>
<td>22,403</td>
<td>14.38 (10.92–18.62)</td>
</tr>
<tr>
<td>Total other race</td>
<td>195</td>
<td>157,309</td>
<td>6.89 (5.95–7.92)</td>
</tr>
<tr>
<td><strong>Hispanics 2000–07</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic males</td>
<td>57</td>
<td>108,083</td>
<td>6.59 (4.99–8.54)</td>
</tr>
<tr>
<td>Hispanic females</td>
<td>26</td>
<td>19,072</td>
<td>17.04 (11.13–24.97)</td>
</tr>
<tr>
<td>Total Hispanic</td>
<td>83</td>
<td>127,155</td>
<td>8.16 (6.80–10.12)</td>
</tr>
</tbody>
</table>
Incidence of multiple sclerosis in multiple racial and ethnic groups

ABSTRACT

Objective: To determine whether the incidence of multiple sclerosis (MS) varies by race/ethnicity in a multiethnic, population-based cohort.

Methods: We conducted a retrospective cohort study of more than 9 million person-years of observation from the multiethnic, community-dwelling members of Kaiser Permanente Southern California health plan from January 1, 2008 to December 31, 2010. Incidence of MS and risk ratios comparing incidence rates between racial/ethnic groups were calculated using Poisson regression.

Results: We identified 496 patients newly diagnosed with MS who met McDonald criteria. The average age at diagnosis was 41.6 years (range 8.6–78.3 years) and 70.2% were women. The female preponderance was more pronounced among black (79.3%) than white, Hispanic, and Asian individuals with MS (67.8%, 68.1%, and 69.2%, respectively; p = 0.03). The incidence of MS was higher in blacks (10.2, 95% confidence interval [CI] 8.4–12.4; p < 0.0001) and lower in Hispanics (2.9, 95% CI 2.4–3.5; p < 0.0001) and Asians (1.4, 95% CI 0.7–2.4; p < 0.0001) than whites (6.9, 95% CI 6.1–7.8). Black women had a higher risk of MS (risk ratio 1.59, 95% CI 1.27–1.99; p = 0.0005) whereas black men had a similar risk of MS (risk ratio 1.04, 95% CI = 0.67–1.57) compared with whites.
“CLINICAL CHARACTERISTICS OF AFRICAN AMERICANS VS CAUCASIAN AMERICANS WITH MULTIPLE SCLEROSIS”

- Similar proportion of MS subtypes
- More aggressive course of disease
- Shorter time to walking disability
- More optic nerve impairment
- Earlier time to starting treatment — more severe symptoms at onset

Cree et al Neurology 2004
CHALLENGES TO CARE

• Balancing knowledge of phenotype with treatment decisions

• Examining the genetic, socioeconomic and cultural factors that may influence access to and delivery of care

• Poor diversity in clinical trials potentially affects the application of knowledge to various populations
Multiple sclerosis in US minority populations

Clinical practice insights

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Summary
The heterogeneity of multiple sclerosis (MS) characteristics among various ethnic minority populations is a topic of recent interest. However, these populations are consistently underrepresented in clinical trials, leading to limited data on the effectiveness of treatments in these groups of patients and lack of an evidence-based approach to treatment. In order to achieve optimal disease management in the ethnic minority MS populations, a better understanding of the regional, socioeconomic, and cultural influences that result in underrepresentation of these groups in clinical trials is needed. Furthermore, it would be beneficial to identify the genetic factors that influence disease disparity in these minority populations. Suggestions for the identification and implementation of best practices for fostering the trust of ethnic minority patients with MS and enhancing their participation in clinical trials are offered.

Multiple sclerosis (MS) is a presumed autoimmune disorder of the CNS characterized by inflammatory demyelination and neurodegeneration, affecting approximately 400,000 people across the United States and over 2 million people worldwide.1,2 Symptoms of MS, a disease typically diagnosed in adult women between the ages of 20 and 50 years, vary tremendously and may comprise diffuse symptoms such as depression, pain, cognitive difficulties, and fatigue, as well as focal
ACCESS TO AND UTILIZATION OF NEUROLOGISTS
BY PEOPLE WITH MULTIPLE SCLEROSIS”
MINDEN ET AL NEUROLOGY 2008

• Characteristics of patients less likely to see neurologists:
  • Lack of health insurance
  • Lower Income
  • African American
  • Living in rural areas
  • Illness longer than 15 yrs
“The MS Minority Research Engagement Partnership Network is an inclusive and comprehensive program that brings together diverse stakeholder groups to identify and address the barriers to minority participation in MS research. Together, we are using our collective knowledge, research, and insights to dig deep into the issues and develop innovative, community-endorsed, culturally appropriate strategies and solutions to promote research participation among racial and ethnic minority groups.”
WHERE DO WE GO FROM HERE?

• Accurate databases to determine the true prevalence of MS in the US including information on ethnic minorities

• Prospective trials looking at the disease course to see if it confirms information from retrospective analyses

• Studies examining treatment efficacy in minority populations

• Increased recruitment of ethnic minorities in Clinical Trials
All I need is PEACE, LOVE and a fricken CURE for MULTIPLE SCLEROSIS III