

Ethnic Considerations and Multiple Sclerosis Disease Variability in the United States



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KEYWORDS

- Ethnicity • Race • Hispanic • African American • Health disparity
- Genetic admixture

KEY POINTS

- Hispanics and African Americans are at risk of greater MS disease burden early on the disease course.
- Hispanics, African Americans, and Asians are more likely to develop opticospinal MS than Caucasians, a phenotype that can lead to greater ambulatory disability.
- The HLA region is the most important MS susceptibility locus in Caucasians and other minority populations.
- Minority populations are overrepresented in socioeconomically disadvantaged groups and disproportionately face barriers to health care and access to MS specialists.

INTRODUCTION

There is a general sense that minority populations in the United States are less frequently affected with multiple sclerosis (MS). These minority populations include individuals of African American, Hispanic, and Asian backgrounds. Recent incidence reports suggest an increasing rate of MS among African Americans compared with whites.^{1,2} Despite this recent increase in MS in African Americans, Hispanics and Asians are significantly less likely to develop MS than whites of European background and African Americans.²⁻⁴ MS-specific mortality trends demonstrate distinctive disparities by race/ethnicity and age, suggesting that there is an unequal burden of disease. Although there are many determinants of inequalities in health, the authors

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review clinical characteristics and discuss genetic and health disparities related to ethnicity in African American and Hispanic Americans that may be contributing to disease variability in these 2 large minority populations with MS in the United States.

Prevalence, Incidence, and Mortality

MS as estimated by the World Health Organization shows a global median prevalence of 35 cases and a median incidence of 4 cases per 100,000, with a current total estimate of 2.3 million individuals affected with MS. In the United States, the prevalence indicative of all racial and ethnic background is estimated at 400,000⁵ using a nationally representative commercially insured electronic claims database. Although there are regional differences reported by west and east coast, the reporting by specific ethnic and racial groups was not available. Nevertheless, in the last several years, published incident reports from 2 large multiethnic cohorts indicate drastic changes in the demographics of MS in the United States. A retrospective cohort study from the multiethnic, Kaiser Permanente plan in Southern California reported an incidence of 2.9% per 100,000 in Hispanics versus a 6.9% in whites, whereas the incidence for African Americans was almost twice that of whites, 10.2% (Table 1).² Table 1 shows the incidence of MS in Hispanics is significantly lower than in non-Hispanic whites, but higher than Asians and Native Americans.^{2,4} Furthermore, clinical isolated syndrome is also lower in Hispanics when compared with whites, but significantly higher than blacks.³ Using the US military Veteran population, Wallin and colleagues¹ reported that the rate was still low for Hispanics when compared with whites and African Americans. The estimated annual age-specific incidence rate for Hispanics was reported at 8.2%, significantly lower than whites (9.3) and blacks (12.1) (see Table 1). Interestingly, Langer-Gould and colleagues³ reported that the risk of MS was found to be 3 times more in African American women than in African American men. Lower risk of MS for Hispanics and Asians was found in both men and women. Although limited, these 2 studies highlight that race and ethnicity are likely to play a larger role in the distribution of MS worldwide. In all studies, MS is predominantly a female disease across ethnic groups.

US population-based mortality studies in MS are limited. Redelings and colleagues,⁶ using the national multiple cause of death data, analyzed deaths due to MS by race/ethnicity from 1990 to 2001. They found that the overall age-adjusted mortality from MS was 1.44/100,000 population with mortalities highest among whites followed by blacks, Hispanics, American Indians/Alaska Natives, and Asians and Pacific Islanders. The increased MS mortality was uniform in both sexes, although higher in women than in men. Age-adjusted mortality per 100,000 population was 1.58 in whites, 0.39 (95% confidence interval [CI] 0.23–0.26) in Hispanics, and 1.28 (95% CI 0.78–0.83) in blacks. Mortalities increase with age for all groups and decrease for

Table 1
Incidence of multiple sclerosis in diverse minority populations

Incidence of MS	Cohort	Period	Whites	African American	Hispanic	Asian	Native American
Langer-Gould	Kaiser Permanente Southern California	2008–2010	6.9	10.2	2.9	1.4	n/a
Wallin	US military-Veteran population	1990–2007, 2000–2007 for Hispanics	9.3	12.1	8.2	3.3	3.1

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