Risk Factors for Disease Progression in a Diverse Population-based Multiple Sclerosis Cohort.

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INTRODUCTION: Multiple sclerosis (MS) is the most common progressive neurological disease of young adults. Its incidence and prevalence have been increasing in racial groups and regions of the world previously uncommonly affected, including African Americans, Hispanics, Asians and individuals from the Middle East. There are few population-based MS cohorts evaluating disability progression, most of which are biased towards individuals of Northern European descent. The major objective of this study was to evaluate demographic, environmental and clinical variables on disease progression in a new and diverse cohort.

METHODS: In the population-based Gulf War era MS cohort (n = 2,631) we assessed disease progression on the Kurtzke Disability Status Scale (DSS). This cohort comprised incident cases with US military service between 1990–2007, with neurological disability assessed at diagnosis and the most recent examination. Race/ethnicity, sex, geographic location and occupation at service entry,
deployment to a war theater, and clinical variables were coded from patient databases. Time from disease onset to DSS 6 (cane) and DSS 7 (restricted to wheelchair) was assessed using Kaplan-Meier curves and a Cox proportional hazard model.

RESULTS: Over the mean follow-up period of 7.8 years, African Americans (AA) and males were significant independent predictors of progression to DSS 6 and DSS 7; deaths were too few for assessment. Patients with motor or multiple symptoms at onset were also a significant predictor of progression to DSS 6 and DSS 7. Deployment to a war theater, geographic location and occupational status at entry to the military were not predictors of progression to DSS 6 and DSS 7.

CONCLUSIONS: For MS disability progression, male sex, African American race, and motor/multiple symptoms at onset were significant risk factors for progression, with no significant effects for other factors studied.