(S89) PAST SUN EXPOSURE, VITAMIN D INTAKE, AND AGE AT ONSET AMONG VETERANS WITH MULTIPLE SCLEROSIS
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Background: Several studies have demonstrated that sun exposure and cod-liver oil or fish consumption, both of which are sources of vitamin D, during childhood and adolescence were associated with a reduced risk of multiple sclerosis (MS). However, the role of these environmental agents in the timing of disease symptom onset is not known. Objectives: To examine whether sun exposure and vitamin D intake (diet and supplements) during childhood and adolescence were associated with delayed onset of MS in a national cohort of veterans with MS. Methods: Patients with MS were recruited from the Veterans Health Administration (VHA) Multiple Sclerosis Surveillance Registry, a nationally representative sample of veterans with MS. Participants reported their age at MS symptom onset, disease subtype, histories of residential locations, sun exposure, and vitamin D–related food and supplement intake by 5-year age periods. Cumulative past sun exposures were estimated for the fall/winter and spring/summer seasons. Solar radiation levels were estimated based on the latitude, altitude, and UV count of self-reported residence. Multiple regression was used to examine the associations between these variables and the age at MS onset, controlling for known covariates. Results: Among patients with relapsing MS (N = 948), low sun exposure in the fall/winter during the age period of 6 to 15 years was significantly associated with early onset of disease symptoms (by an average of 2.3 years; P = .01) for those who resided in low-to-medium solar radiation areas. Intake of cod-liver oil during childhood was associated with delayed onset of MS symptoms by 3 years (P = .01). Conclusions: The current study provides the first evidence that low vitamin D status during childhood and early adolescence, through low sun exposure or no supplement intake (eg, cod-liver oil) may be related to early onset of MS symptoms.

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