P18 Interpretation of Neuro-QOL domains across a spectrum of patients living with multiple sclerosis

Deborah Miller, Yadi Li, Daniel Ontaneda, Robert Bermel, Scott Husak, Brittany Lapin

Cleveland Clinic, Cleveland, USA

Objective: Multiple sclerosis (MS) is a neurological condition characterized by distinct progression patterns and increasing disability over time. Our study explored the clinical utility of Neuro-QoL domains, a health-related quality of life (HRQOL) measure across a spectrum of patients with MS (PwMS) to improve interpretability.

Methods: This cross-sectional cohort study included adult patients seen at an academic MS-specialty center who completed 10 Neuro-QoL domains as standard care between 9/2015-2/2024. Neuro-QoL T-scores were summarized by categories of disease duration (0-4, 5-9, 10-14, 15-19, 20+ years), age (18-34, 35-49, 50-64, 65+ years), and MS severity (Patient-Determined Disease Steps [PDDS]) 0-2, 3-4, 5+). The proportion of patients exhibiting at least moderate symptoms/functional deficits were defined as 1 standard deviation (SD) worse than population mean score of 50. Analyses were stratified by MS type (progressive (P) vs relapsing remitting (RR)).

Results: 4,583 PwMS (mean age 48.2 [SD 13.3] years, 71.8% female, 77.8% white race, mean disease duration 14.3 [SD 12.2] years) participated. The most affected Neuro-QoL domain was Upper extremity (43.9±9.8), the least affected was Depression (47.2±8.3). The proportion of patients experiencing moderate symptoms/deficits ranged from 7.7% on Depression to 40.5% on Upper extremity. Most Neuro-QoL scores were significantly different across categories of MS duration, age, and PDDS, with marked differences by MS type. For P-MS (n=1,544) and RR-MS (n=2,272), the proportion of patients experiencing moderate symptoms on Lower and Upper extremity domains increased significantly with age and duration of disease (i.e., in RR-MS, Upper Extremity severity ranged from 17.2% at 0-4 years to 39.9% at 20+ years with MS; in P-MS the range was 51.6% to 72.8%). For all other domains, there was consistent or lower proportions of moderate symptoms/disability with increasing age, MS duration, and PDDS.

Conclusions: HRQL is important for targeted treatment strategies, future healthcare utilization and outcomes. Through providing robust estimates of health status across the spectrum of MS, resources can be prioritized to those subgroups most in need. Our study also provides general benchmarks that can be useful for others using Neuro-QoL or other measures of HRQL to monitor the health status of PwMS.