

BACKGROUND

- Multiple sclerosis (MS) is a chronic progressive autoimmune disease of the central nervous system (CNS).
- MS is one of the leading causes of nontraumatic disability in young adults and affects over one million individuals in the United States (US).
- Regardless of the disease stage, most MS patients could develop cognitive, psychological, and physical symptoms, which might lead to coordination issues and limit patients' ability to fully engage in a variety of daily tasks.
- The health-related quality of life (HRQoL) of MS patients is significantly impacted by the pathophysiology and symptomatology of the disease.
- There is an evidence gap regarding the HRQoL of MS patients based on the national-level data.

OBJECTIVE

- This study examined and compared the HRQoL and functional limitations of MS patients with the non-MS population using the 2006-2015 Medical Expenditure Panel Survey (MEPS).



REFERENCES:

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METHODS

Study design and data source

- Using the conceptual framework of the Wilson and Cleary model, this cross-sectional study compared HRQoL of adult MS patients with the non-MS adults using the MEPS.
- The MEPS data is a nationally representative survey of non-institutionalized civilians administrated by the Agency for Healthcare Research and Quality (AHRQ)
- MEPS collects responses in health conditions, healthcare utilization, insurance coverage, demographic characteristics.

Study population

- Any respondents ≥ 18 years with MS patients were identified with the Clinical Classification Code: 080, and those without MS were considered as the comparison group.
- Any respondents with missing information were excluded from this study.

HRQoL-related Outcomes

- Physical component summary (PCS) and mental component summary (MCS) of SF-12
- Activities of daily living (ADL) and instrumental activities of daily living (IADL)

Statistical analysis

- Weighted analyses were conducted to examine the patients' demographic and clinical characteristics.
- The study applied the multivariate Generalized Linear Models (GLM) to estimate the marginal differences in PCS and MCS of SF-12.
- Multivariable logistic regression models were used to evaluate ADL and IADL for MS and non-MS populations.

RESULTS

Table 1. Weighted Sample Sociodemographic and Clinical Characteristics among MS and non-MS Population

	MS Group			non-MS Group			p-value
	N=456			N=214,226			
	%	95% CI		%	95% CI		
Age							
18-34	12.28	7.82	16.74	29.60	28.98	30.22	<.0001
35-49	32.71	25.79	39.63	26.41	25.98	26.84	
50-64	40.21	33.53	46.89	25.82	25.34	26.30	
65+	14.81	9.41	20.20	18.17	17.57	18.78	
Gender							
Male	28.10	20.85	35.36	47.90	47.63	48.18	<.0001
Female	71.90	64.64	79.15	52.10	51.82	52.37	
Race/ethnicity							
Hispanic	6.82	3.12	10.51	14.26	12.92	15.61	0.0001
Non-Hispanic White	78.29	72.56	84.01	67.26	65.71	68.80	
Non-Hispanic African American	11.49	8.19	14.79	11.40	10.39	12.40	
Other	3.41	1.20	5.61	7.08	6.26	7.91	
Marital status							
Married	59.92	52.94	66.89	53.53	52.76	54.31	<.0001
Widowed/divorced/separated	27.68	20.97	34.39	20.28	19.77	20.8	
Single/never been married	12.40	8.12	16.68	26.18	25.63	26.74	
Education							
Less than high school	8.46	3.84	13.08	15.73	15.16	16.29	0.069
High school graduation/GED	29.74	23.38	36.10	29.16	28.50	29.81	
Associates/bachelors degree	49.44	42.38	56.50	44.39	43.74	45.04	
Masters or higher	12.36	7.26	17.46	10.73	10.20	11.25	
Total family income							
Poor/ negative	15.55	11.37	19.72	12.01	11.50	12.52	0.430
Near poor	4.75	2.50	6.99	4.35	4.18	4.51	
Low income	12.95	9.32	16.58	13.40	13.05	13.75	
Middle income	27.84	22.61	33.08	30.04	29.53	30.55	
High income	38.91	32.22	45.60	40.20	39.24	41.16	
Insurance status							
Private	68.93	62.47	75.4	68.41	67.48	69.34	<.0001
Public	27.29	20.92	33.67	17.52	16.87	18.16	
Uninsured	3.78	1.68	5.87	14.08	13.44	14.71	
Number of Elixhauser comorbidities							
0-1	55.01	48.24	61.78	72.72	72.14	73.31	<.0001
2-3	35.66	29.43	41.90	22.21	21.76	22.67	
4+	9.33	5.76	12.89	5.06	4.85	5.28	
Smoking							
Yes	33.99	32.99	34.99	11.66	10.57	12.74	<.0001
No	66.01	65.01	67.01	88.34	87.26	89.43	

Figure 1. Health-related Quality of Life among MS and non-MS Population: MEPS 2006-2015

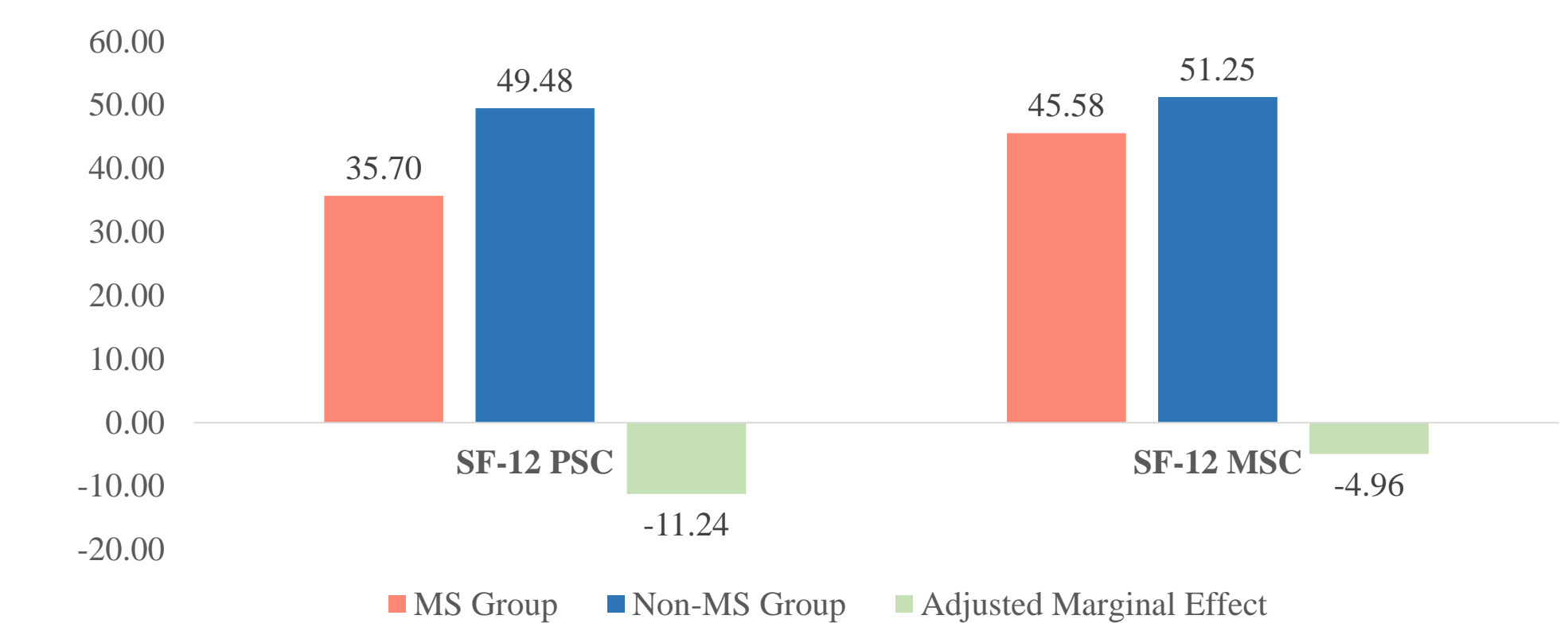


Table 2. Multivariable Logistic Regression Model: Factors Associated with ADL and IADL: MEPS 2006-2015

	Adjusted Odds Ratio	95% CI		p-value
MS Patients vs. Non-MS Population	17.32	11.61	25.84	<.0001
MS Patients vs. Non-MS Population	14.43	10.09	20.65	<.0001

CONCLUSIONS

- The marginal difference in PCS score was 11.10 units lower, and the MCS score was 4.89 units lower among MS patients.
- MS patients were 17.32 and 14.43 times more likely to request assistance for ADL and IADL,
- Overall, patients with MS were associated with diminished physical and mental HRQoL and were more likely to seek help for ADL and IADL.
- Effective treatment approaches can help to improve HRQoL and decrease functional limitations in MS.