

Fatigue in Active and Nonactive Primary and Secondary Progressive Multiple Sclerosis Patients in the United States

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BACKGROUND

- Fatigue is one of the most common and debilitating symptoms of MS, affecting up to 80% of patients with MS, with far-reaching effects on daily activities, employment, and HRQoL^{1,2}
 - A recent study reported that patients with progressive MS characterized fatigue as occurring daily and lasting several hours, with negative impacts on almost all aspects of HRQoL³
- Although fatigue is one of the most common symptoms of MS, its prevalence is not well documented, especially in patients with active and nonactive PPMS and SPMS

OBJECTIVE

- To determine the percentage of patients with active and nonactive PPMS and SPMS impacted by fatigue in the US

STUDY DESIGN

- This study was a retrospective analysis of the cross-sectional survey collected by the Adelphi Disease Specific Programme from 2013–2021, which was conducted independently by Adelphi Real World (Bollington, UK)

METHODS

- Physicians who were qualified to practice medicine, responsible for treatment decisions for patients with MS, and made treatment decisions for ≥16 patients with MS in a typical month, were invited to participate in the cross-sectional survey
 - Participating physicians completed a physician-reported questionnaire for the next 10–15 MS patients who consulted them
 - An assessment of patients' clinical status, including fatigue, and the requirement for assistance with daily needs, was included in the physician-reported questionnaire. Fatigue was broken out into physical and mental fatigue categories in the 2021 data
 - Information was obtained through a review of patients' medical records; there was no time limit on how far back the physician could look
- Adult patients (aged ≥18 years) with active or nonactive PPMS or SPMS were identified in the US
 - Active and nonactive PPMS were categories within the current diagnosis that the physician reported
 - Active and nonactive SPMS were defined by physician-reported current diagnosis of SPMS, and the presence or absence of relapse in the past year, respectively
 - Patients could not be participating in any clinical trials at the time of the survey
- Patterns of fatigue were determined based on the physician-reported annual cross-sectional survey for patients with active and nonactive PPMS and SPMS

RESULTS – STUDY POPULATION

- A total of 3307 patients, comprised of 2528 patients with PPMS (n=851 active, n=1677 nonactive) and 779 patients with SPMS (n=293 active, n=486 nonactive), were included in the study
- Patient characteristics are shown in **Table 1**
 - A third of patients with active or nonactive PPMS were working full or part time, and 34% and 22% of patients with active or nonactive SPMS, respectively, were working full or part time
 - The percentage of patients receiving treatment with a disease-modifying therapy was highest for patients with active SPMS, followed by nonactive SPMS, active PPMS, and then nonactive PPMS

Table 1. Patient Characteristics*

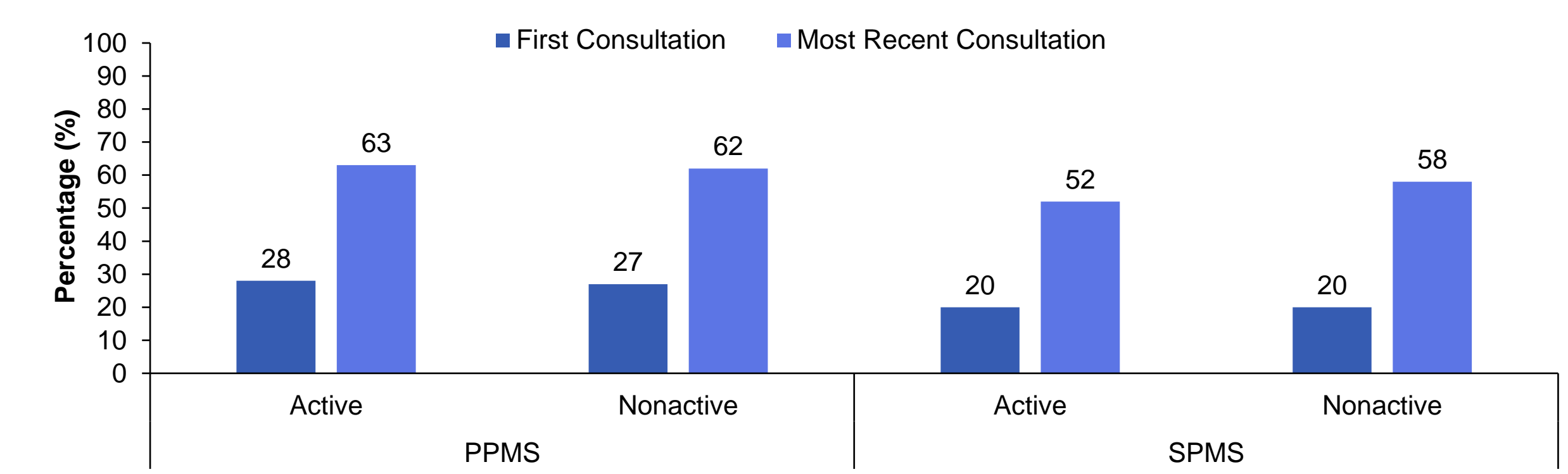
Characteristic	PPMS (N=2528)		SPMS (N=779)	
	Active (n=851)	Nonactive (n=1677)	Active (n=293)	Nonactive (n=486)
Age, years	N=851	N=1675	N=292	N=486
Mean (SD)	48.6 (11.0)	50.7 (10.9)	48.7 (10.4)	54.2 (10.1)
Sex, %	N=851	N=1677	N=293	N=486
Male	43	48	29	32
Female	57	52	70	68
BMI, kg/m²	N=837	N=1645	N=285	N=468
Mean (SD)	26.9 (5.1)	26.5 (4.4)	26.7 (4.6)	26.9 (5.2)
Employment status, %[†]	N=793	N=1576	N=267	N=450
Working full time	20	20	24	12
Working part time	13	14	10	10
On long-term sick leave	3	2	2	4
Homemaker	12	10	16	13
Student	1	1	3	0
Retired	20	22	15	28
Unemployed	28	29	30	30
Don't know	3	2	1	2
Receiving disease-modifying therapy at most recent visit, %	N=536	N=1047	N=160	N=324
Yes	72	57	89	76
No	28	43	11	24

*Data on some variables were not available for all patients. [†]Percentages may not add up to 100% due to rounding

RESULTS – FATIGUE

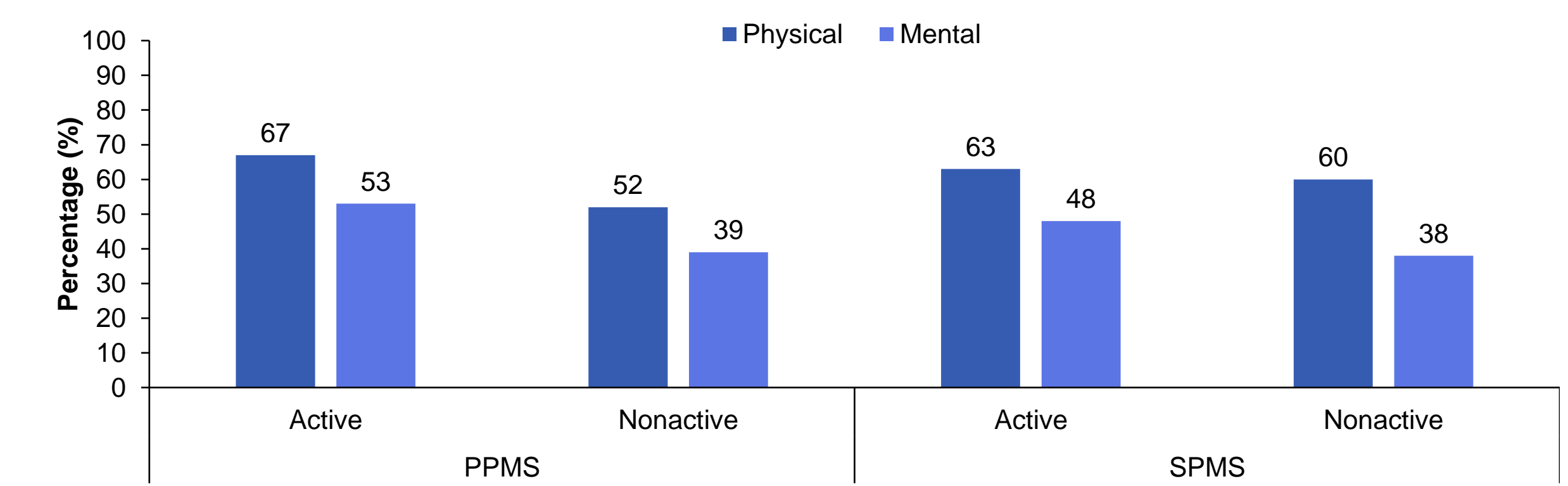
- Fatigue prompted a first consultation in 28% and 27% of patients with active and nonactive PPMS, respectively, and in 20% of patients with active or nonactive SPMS (**Figure 1**)
- At the most recent consultation, fatigue was reported in 63% and 62% of patients with active and nonactive PPMS, respectively, and in 52% and 58% of patients with active or nonactive SPMS (**Figure 1**)
 - Moderate-to-severe fatigue was reported in 44% of patients with active or nonactive PPMS, and in 35% and 42% of patients with active or nonactive SPMS, respectively

Figure 1. Percentage of patients with active and nonactive PPMS and SPMS reporting fatigue at the first consultation or most recent consultation



- In 2021, physical fatigue was reported in 67% and 52% of patients with active and nonactive PPMS, respectively, and in 63% and 60% of patients with active and nonactive SPMS (**Figure 2**)
- Mental fatigue was also reported in 53% and 39% of patients with active and nonactive PPMS, respectively, and in 48% and 38% of patients with active and nonactive SPMS (**Figure 2**)
- A caregiver was responsible for the daily needs of 47% and 46% of patients with active or nonactive PPMS, respectively, and of 49% and 45% of patients with active and nonactive SPMS

Figure 2. Percentage of patients with active and nonactive PPMS and SPMS reporting physical or mental fatigue in 2021



CONCLUSIONS

Results from this study examining fatigue in patients with MS showed that most patients were receiving disease-modifying therapy, but continue to be impacted by fatigue, regardless of active or nonactive status, with no major difference between PPMS and SPMS

In patients with active and nonactive PPMS and SPMS, there was an increase in the percentage of patients who reported fatigue from the initial consultation to the most recent consultation

- At the most recent consultation, the majority of patients with active and nonactive PPMS and SPMS reported fatigue
- In 2021, there was a higher percentage of patients with active and nonactive PPMS and SPMS who reported physical fatigue than mental fatigue

Approximately half of patients with active and nonactive PPMS and SPMS needed assistance from a caregiver for daily activities

More transformational treatments are needed to address fatigue in patients with PPMS and SPMS

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ABBREVIATIONS

BMI = body mass index; HRQoL = health-related quality of life; MS = multiple sclerosis; PPMS = primary progressive multiple sclerosis; SD = standard deviation; SPMS = secondary progressive multiple sclerosis

