Real-World Insight Into the Disease Burden and Treatment of Spondyloarthritis From a US-Based Life Impact Survey

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BACKGROUND

- Spondyloarthritis (SpA) comprises a group of chronic rheumatic diseases with common clinical, genetic, and pathological characteristics[1,2]
  - SpA diseases include ankylosing spondylitis (AS), uveitis/iritis, undifferentiated spondyloarthropathy, psoriatic arthritis, axial SpA, enteropathic arthritis associated with inflammatory bowel disease, reactive arthritis, and juvenile spondyloarthropathy
  - SpA is associated with numerous manifestations and comorbidities, including acute anterior uveitis, inflammatory bowel disease, psoriasis, cardiovascular diseases, diabetes, osteoporosis, and depression[1]
- Substantial delays in the diagnosis of SpA due to the high prevalence of back pain lead to disease progression, often resulting in functional limitation and impairment of quality of life[3]
- Evidence on real-world disease burden and treatment patterns in the overall SpA population and on individual SpA conditions is limited

OBJECTIVE

- To assess self-reported burden of disease and medication use in US patients with SpA in a real-world setting

METHODS

Spondylitis Association of America Life Impact Survey Data Source and Study Population

- Descriptive data on demographics, disease definition and history, and treatment were collected from a random sample of patients associated with the Spondylitis Association of America (SAA)
  - The SAA, founded in 1983, is a national nonprofit organization headquartered in Van Nuys, CA, with an all-volunteer board of directors and an internationally recognized panel of experts on its medical and scientific advisory board
  - The SAA creates and maintains programs and services directed at improving the lives of patients with SpA
  - Previous Life Impact Surveys were conducted by the SAA in 2002 and 2011[4,5]
- Between July 7, 2017, and December 31, 2017, a total of 820 interviews were conducted with SAA contacts, including 720 completed via a website survey (from 7750 emails) and 100 via follow-up over the phone (from 10,784 phone calls made to 5000 unique numbers)

Data Variables

- Baseline demographics and SpA disease burden characteristics were evaluated, including comorbidities, time from symptom manifestation to diagnosis, treatment dynamics and medical care, and treatment received
  - In addition, respondent satisfaction with their current treatment was also surveyed

Data Analysis

- Categorical variables were presented as the count and percentage of respondents per category, and continuous variables were summarized with means

RESULTS

Baseline Demographics and Disease Characteristics

- All 820 participants self-reported receiving a diagnosis of SpA from their doctor and were included in this study
- Baseline demographics and disease characteristics are summarized in **Table 1**
  - The mean age of survey participants was 55.1 years; 44.3% were male

- The most common self-reported SpA disease was AS (87.3%)
  - Frequently reported locations of pain reported were the lumbar spine (86.5%), neck (82.4%), and hip joint (79.9%)
- Overall, the most frequently reported comorbidities and health conditions were acid reflux (50.7%), eye inflammation (45.2%), high blood pressure (34.3%), irritable bowel syndrome (34.3%), migraine (33.4%), and balance issues (31.5%)
  - Compared with women, men were more affected by high blood pressure (42.7% vs 28.5%) and heart disease (14.0% vs 4.0%) and less affected by fibromyalgia (4.2% vs 22.1%)
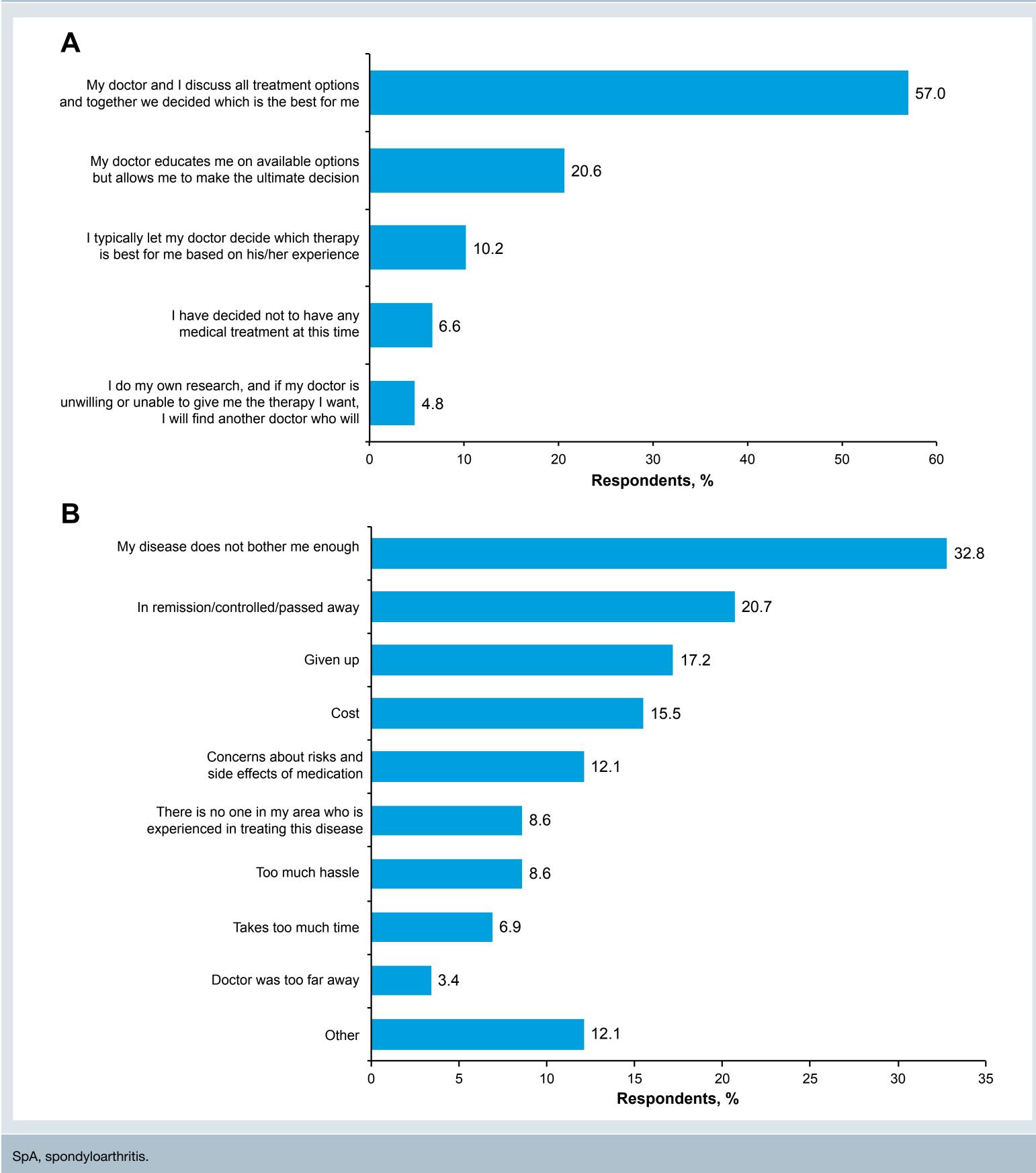- Among respondents with AS (n = 716), disease symptoms were first noticed, on average, 26.6 years prior to the completion of the survey; respondents received an AS diagnosis ≈ 8.2 years later

Table 1. Baseline Demographics and Disease Characteristics of Respondents With SpA

Characteristics	Respondents With SpA (N = 820)
Age, mean, years	55.1
Male, n (%)	363 (44.3)
US region, n (%)	
Northeast	167 (20.4)
Southeast	169 (20.6)
Midwest	153 (18.7)
West	228 (27.8)
Southwest	94 (11.5)
Other (out of country)	9 (1.1)
Associated diseases, n (%)	
AS	716 (87.3)
Uveitis/iritis	232 (28.3)
Crohn disease or ulcerative colitis	125 (15.2)
Undifferentiated SpA	94 (11.5)
Psoriatic arthritis	77 (9.4)
Axial SpA	30 (3.7)
Enteropathic arthritis associated with inflammatory bowel disease	27 (3.3)
Reactive arthritis	26 (3.2)
Juvenile SpA	14 (1.7)
Locations of pain, n (%)	
Lumbar spine	709 (86.5)
Neck	676 (82.4)
Hip joint	655 (79.9)
Waist or sacrum or pelvis	577 (70.4)
Shoulders	565 (68.9)
Comorbidities and other health conditions, n (%)	
Acid reflux	416 (50.7)
Eye inflammation	371 (45.2)
High blood pressure	281 (34.3)
Irritable bowel syndrome	281 (34.3)
Migraine	274 (33.4)
Balance issues	258 (31.5)
Gut inflammation	231 (28.2)
High cholesterol	214 (26.1)
Depression	189 (23.0)
Fibromyalgia	115 (14.0)
Time since development of symptoms associated with AS, (n = 716), years	26.6
Time since diagnosis of AS, (n = 716), years	18.4

AS, ankylosing spondylitis; SpA, spondyloarthritis.

Treatment Dynamics Among Respondents With SpA

- Respondents saw an average of 2.2 doctors about their back pain, joint pain, or inflammatory problems within the last 2 years, including 20.7% of respondents who saw ≥ 4 doctors
- Regarding treatment providers, 76.7% of respondents with AS received care from rheumatologists, 8.7% from primary care physicians, and 3.8% from orthopedic surgeons
- Of all 820 respondents queried, 57.0% discussed medication options with their doctor and jointly participated in treatment decisions (**Figure 1A**)
- Of 58 respondents (6.6%) who were not receiving treatment, 32.8% noted that their disease did not bother them enough to seek treatment at the time of the survey (**Figure 1B**)

Figure 1. (A) Decision-Making Dynamics Between Respondents With SpA and Their Healthcare Providers (N = 820) and (B) Reasons Respondents With SpA Were Not Receiving Treatment (N = 58)
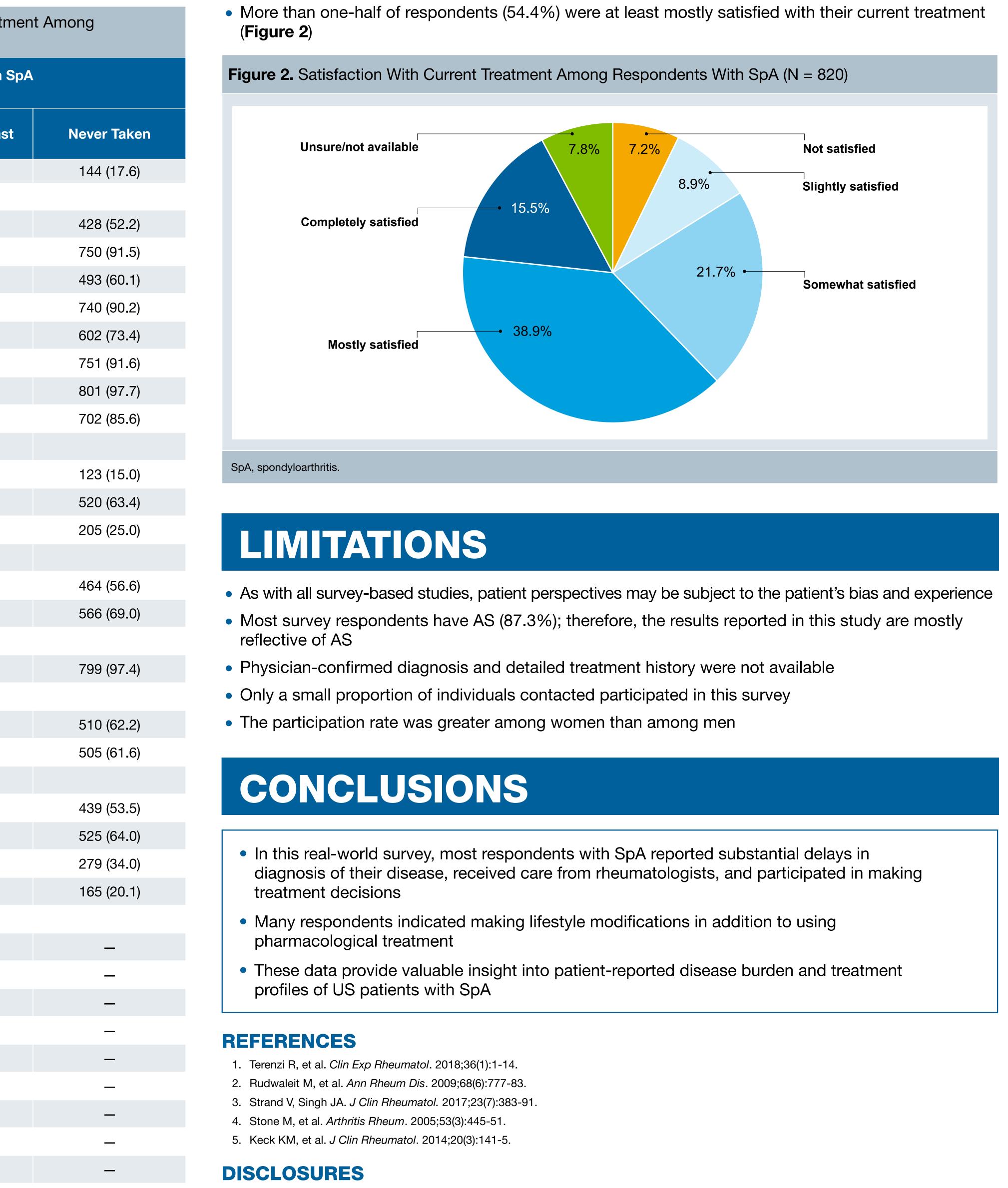

SpA, spondyloarthritis.

Treatment Characteristics and Satisfaction Among Respondents With SpA

- Most respondents were treated with biologics and nonsteroidal anti-inflammatory drugs at the time of survey participation (**Table 2**)
- Many respondents also opted for nonmedicinal treatments, including stretching and strengthening exercises (66.2%); biking, running, or walking (57.4%); practicing proper posture techniques (56.5%); and special diets (39.4%)

Table 2. Summary of Treatment History and Overall Satisfaction With Current Treatment Among Respondents With SpA

Medicinal Treatments, n (%)	Respondents With SpA (N = 820)		
	Currently Taking	Taken in the Past	Never Taken
Analgesics (acetaminophen)	191 (23.3)	485 (59.1)	144 (17.6)
Biologics			
Adalimumab	145 (17.7)	247 (30.1)	428 (52.2)
Certolizumab pegol	28 (3.4)	42 (5.1)	750 (91.5)
Etanercept	82 (10.0)	245 (29.9)	493 (60.1)
Golimumab	18 (2.2)	62 (7.6)	740 (90.2)
Infliximab	85 (10.4)	133 (16.2)	602 (73.4)
Secukinumab	48 (5.9)	21 (2.6)	751 (91.6)
Ustekinumab	4 (0.5)	15 (1.8)	801 (97.7)
Cannabis (medical marijuana)	54 (6.6)	64 (7.8)	702 (85.6)
NSAIDs			
Ibuprofen	153 (18.7)	544 (66.3)	123 (15.0)
Indomethacin	33 (4.0)	267 (32.6)	520 (63.4)
Naproxen	105 (12.8)	510 (62.2)	205 (25.0)
Opioids			
Hydrocodone	67 (8.2)	289 (35.2)	464 (56.6)
Oxycodone	55 (6.7)	199 (24.3)	566 (69.0)
Phosphodiesterase-4 inhibitor			
Apremilast	2 (0.2)	19 (2.3)	799 (97.4)
SAARDs			
Methotrexate	89 (10.9)	221 (27.0)	510 (62.2)
Sulfasalazine	80 (9.8)	235 (28.7)	505 (61.6)
Steroids			
Cortisone	22 (2.7)	359 (43.8)	439 (53.5)
Hydrocortisone	23 (2.8)	272 (33.2)	525 (64.0)
Prednisone	82 (10.0)	459 (56.0)	279 (34.0)
Other	126 (15.4)	33 (4.0)	165 (20.1)
Nonmedicinal treatments, n (%)			
Stretching and strengthening exercises	543 (66.2)	204 (24.9)	—
Biking/running/walking	471 (57.4)	209 (25.5)	—
Proper posture techniques	463 (56.5)	191 (23.3)	—
Special diet	323 (39.4)	190 (23.2)	—
Breathing exercises	280 (34.1)	199 (24.3)	—
Quit smoking	226 (27.6)	145 (17.7)	—
Swimming/water exercises	200 (24.4)	338 (41.2)	—
Sports	159 (19.4)	233 (28.4)	—
Yoga	131 (16.0)	264 (32.2)	—
Dance	62 (7.6)	180 (22.0)	—
Tai chi	25 (3.0)	137 (16.7)	—
Other	65 (7.9)	17 (2.1)	—

NSAID, nonsteroidal anti-inflammatory drug; SAARD, slow-acting antirheumatic drug; SpA, spondyloarthritis.

- More than one-half of respondents (54.4%) were at least mostly satisfied with their current treatment (**Figure 2**)

Figure 2. Satisfaction With Current Treatment Among Respondents With SpA (N = 820)

SpA, spondyloarthritis.

LIMITATIONS

- As with all survey-based studies, patient perspectives may be subject to the patient's bias and experience
- Most survey respondents have AS (87.3%); therefore, the results reported in this study are mostly reflective of AS
- Physician-confirmed diagnosis and detailed treatment history were not available
- Only a small proportion of individuals contacted participated in this survey
- The participation rate was greater among women than among men

CONCLUSIONS

- In this real-world survey, most respondents with SpA reported substantial delays in diagnosis of their disease, received care from rheumatologists, and participated in making treatment decisions
- Many respondents indicated making lifestyle modifications in addition to using pharmacological treatment
- These data provide valuable insight into patient-reported disease burden and treatment profiles of US patients with SpA

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