0) [HR = 2.23 (1.22-4.07), $p=0.009$]. Comorbidities' indices were not significant predictors of treatment discontinuations due to adverse events.

Conclusion: The presence of comorbidities in patients with SpA is an independent predictor for insufficient 6-month response to bDMARDs and resultant treatment discontinuation due to failure.

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Spondyloarthritis - clinical aspects (other than treatment)

POS0942 THE NEGATIVE IMPACT OF UNDIAGNOSED DEPRESSION IN AXIAL SPONDYLOARTHROPATHY: RESULTS OF A SCREENING STUDY

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Background: Previous research in axial spondyloarthropathy (axSpA) has shown this population to have a high prevalence of depression. This co-morbidity has been previously shown to impact disease activity in patients with rheumatic disease.

Objectives: The purpose of this study was to screen for early signs of depression using two validated tools, the Patient Health Questionnaire-9 (PHQ-9) and the Hospital Anxiety and Depression Scale for depression (HADS-D) in patients with known axSpA.

Methods: AxSpA patients attending the Rheumatology department in St James' Hospital between February and October 2020 were invited to take a self-administered survey which included the PHQ-9 and the HADS-D. Scores from the HADS-D yielded a numerical result which was then categorised as normal, borderline or abnormal. PHQ-9 numerical results were categorised as normal, mild, moderate, moderate/severe or severe. Patients with a known diagnosis of depression were excluded. In addition to baseline demographics, patient reported outcomes from the clinic visit were also recorded.

Data analysis was performed using IBM SPSS version 26. Continuous variables were recorded as means, categorical variables as frequencies with percentages. A one-way analysis of variance analysis (ANOVA) was used to determine significance of variation in outcomes between patient outcomes as determined by the HADS-D and PHQ-9. A p -value of <0.05 was deemed significant. Consent was obtained prior to participation. Approval was received from the St James'/Tallaght Hospital Joint Ethics Committee.

Results: In total 71 axSpA patients took part in the survey. The population was 70.4%(50) males and 29.5%(21) female, with an average age 47.9 years and mean disease duration 19.7 years (mean outcomes: BASDAI 4.08, BASFI 3.62, BASMI 3.54, ASQoL 6.79). Overall, 7 (9.9%) participants recorded abnormal HADS-D scores, while 17 (23.9%) recorded moderate to severe PHQ-9 scores indicative of underlying depression. AxSpA females had higher mean HADS-D scores (7.5 vs 4.8, $p=0.01$) than males, with abnormal scores in 19%(4) of females and 6% (3) of males. No significant differences were found in PHQ-9 scores between genders.

Analysis revealed significantly worse BASDAI (6.27 vs 3.42, $p<0.01$) and AqoL scores (12.57 vs 5.26, $p<0.01$) in axSpA patients with abnormal compared to normal HADS-D scores. No significant differences were noted in BASFI, BASMI or baseline demographics. A similar pattern was noted on analysis of PHQ-9 scores, with significantly worse BASDAI (7.9 vs 2.55, $p<0.01$), BASFI (8.05 vs 2.33, $p<0.01$) and ASQoL (19.5 vs 2.62, $p<0.01$) noted in those scoring as severe compared to normal. No significant differences were detected in BASMI scores or baseline demographics.

Conclusion: A high percentage of axSpA patients recorded high HADS-D and PHQ-9 scores concerning for undiagnosed depression. These patients were noted to have significantly worse disease activity and quality of life as compared to patients with normal scores. Clinicians treating axSpA should consider screening for depression in this population.

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POS0943 GEOGRAPHIC VARIATION OF ANKYLOSING SPONDYLITIS (AS) DIAGNOSIS AND TREATMENT IN THE UNITED STATES: A REAL-WORLD EVIDENCE STUDY

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Background: AS is a chronic inflammatory immune-mediated disease primarily affecting the sacroiliac joints and spine, with a prevalence of 0.2%–0.5% in the United States.¹ Because radiographic features of the disease can take years to develop, diagnosis may be delayed by up to 10 years², which can negatively affect patients' function, ability to work, and overall quality of life.

Objectives: To describe geographic variations in AS diagnostic prevalence and treatment in the United States.

Methods: This study utilized the IBM® MarketScan® Administrative Claims Database from 2014–2019. Patients (pts) ≥ 18 years of age with AS, continuous medical and pharmacy enrollment during the calendar year, and complete geographic information during the study period were included. Pts were identified by having ≥ 1 claim with ICD-9-CM or ICD-10-CM codes for AS (720.0 or M45.x, respectively). Two AS diagnosis definitions were used; Definition 1 (D1): Pts with ≥ 1 claim for an AS diagnosis in the year by any provider and Definition 2 (D2): Pts with ≥ 2 claims for an AS diagnosis within 18 months by rheumatologists. Annual AS diagnostic prevalence rates were calculated for both groups; treatment was evaluated among pts with D2. Diagnosis and treatment rates were assessed from 2014–2019 at the national and state levels and reported for states where >20 pts received an AS diagnosis (D1 or D2) or respective treatment (D2). The effect of age, sex, race (surrogate for HLA-B27), and rheumatologist per capita on geographic variation was assessed.

Results: The number of pts included per year ranged between 10,811–13,077 (D1) and 3,775–4,901 (D2). AS diagnostic prevalence increased over time for both groups, with the annual prevalence rate per 10,000 persons for D2 pts increasing from 2.5 in 2014 to 3.5 in 2019 (Table 1). The AS diagnostic prevalence by D2 in 2019 was highest for Idaho (13) and Colorado (6), and lowest for Michigan (2). The state variations in prevalence did not appear to be explained by age, sex, racial distribution, or rheumatologists per capita. The percentage of D2 pts receiving advanced therapies (all FDA-approved indicated biologic disease-modifying antirheumatic drugs [bDMARDs] for AS) were $>70\%$ and increased each year, whereas the use of conventional synthetic DMARDs (csDMARDs) decreased (Figure 1, next page). While opioid use decreased, 37% of D2 pts were prescribed such treatment in 2019. Percentage of D2 pts receiving advanced therapy in 2019 was highest (91) in Minnesota and South Carolina and lowest in Idaho (69) and Indiana (70). In 2019, the percentage of D2 pts using csDMARDs in 2019 was highest in Oklahoma (33) and lowest (16) in North Carolina and New York, while for opioids it was highest in Idaho (69) and lowest in Wisconsin (28).

Conclusion: The prevalence of AS is increasing each year nationally, with significant variability observed across states that is not explained by differences in age, sex, race, or rheumatologists per capita. Among pts with confirmed AS diagnosis (D2), national rates of csDMARDs and opioids are decreasing although opioid use is still high, and high treatment rates exist for advanced therapies. Rates of all treatments also vary substantially across states. Observed variations may indicate the opportunity for further education that can be targeted based on regional need to improve diagnosis and treatment.

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Table 1. AS diagnostic prevalence by calendar year, 2014–2019

Year	Patients with ≥ 1 AS diagnosis (D1)			Patients with ≥ 2 AS diagnoses by rheumatologists (D2)	
	Number of annual enrollees	Number of patients with AS	Prevalence rate/10,000	Number of patients with AS	Prevalence rate/10,000
2014	19,470,780	13,077	6.7	4,901	2.5
2015	15,159,118	11,863	7.8	4,278	2.8
2016	14,836,594	12,801	8.6	4,473	3.0
2017	12,618,301	10,811	8.6	3,775	3.0
2018	13,460,224	12,259	9.1	4,302	3.2
2019	12,105,049	11,646	9.6	4,294	3.5

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Figure 1.

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POS0944

AGE AT ONSET IN AXIAL SPONDYLOARTHRITIS AROUND THE WORLD: DATA FROM THE INTERNATIONAL ASAS-PERSPA STUDY

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Background: Axial spondyloarthritis (axSpA) typically begins in young adulthood and age at onset is therefore very useful in identifying chronic back patients at an increased risk of axSpA. Age at onset below the age of 45 has been incorporated into the 2009 ASAS classification criteria for axSpA as a mandatory feature. However, inclusion of age at onset before the age of 45 was based on a small number of Western European studies and it is therefore unknown if this age at onset applies to patients in other parts of the world.

Objectives: The aim of this study was to assess age at onset of axSpA as well as its relationship with HLA-B27 throughout the world, using data from the Assessment in SpondyloArthritis international Society (ASAS) peripheral involvement in Spondyloarthritis (ASAS-perSpA) study.

Methods: Analyses were restricted to patients with an axSpA diagnosis who had information available on age at onset of axial complaints. Cumulative probability plots were used to graphically display the cumulative distribution of age at onset of axial symptoms. Linear regression models were built to assess

Table 1. Percentage of axSpA patients with an age at onset of axial symptoms <40, <45 and <50 years stratified by geographical region and HLA-B27 status.

	N	HLA-B27 positive			N	HLA-B27 negative		
		Age at onset <40	Age at onset <45	Age at onset <50		Age at onset <40	Age at onset <45	Age at onset <50
Asia	469	91%	94%	97%	56	79%	88%	95%
Europe & North America	678	88%	94%	98%	184	74%	85%	93%
Latin America	157	81%	94%	96%	38	45%	76%	84%
Middle East & North Africa	320	88%	94%	98%	161	84%	88%	94%
Total	1624	88%	94%	97%	439	76%	86%	93%

the effect of HLA-B27 status on age at onset of axial symptoms. As axSpA is a multifactorial, multigenetic disease, geographical region was investigated as an effect modifier.

Results: The majority (92%) of patients with axSpA had an age at onset of axial symptoms below 45 years, with only small variation across the various geographical regions (table 1). Cumulative distribution plots showed age at onset of axial symptoms was consistently lower in HLA-B27 positive patients (in blue) than in HLA-B27 negative patients (in red) across all geographical regions (Figure 1 below). Linear regression models showed a significant effect of HLA-B27 status on the age at onset of axial symptoms in the total study population ($p<0.001$), and Latin American ($p<0.001$), European & North American ($p<0.001$), Asian ($p=0.006$) and Middle Eastern & North African ($p=0.005$) populations. There was no effect modification of geographical region ($p=0.50$) on the association between HLA-B27 status and age at onset of axial symptoms.

Conclusion: Irrespective of geographical region, the majority of axSpA patients had an age at onset of axial disease before the age of 45. In all populations, HLA-B27 was associated with earlier disease onset. These results provide crucial data for diagnosis, classification, and policies aimed at improving recognition of axSpA.

Figure 1. Cumulative distribution of the age at onset of axial symptoms for Asia (A), Europe & North America (B), Latin America (C), and Middle East & North Africa (D). The black lines represent all patients in a given continent, the blue lines represent HLA-B27 positive patients, and the red lines represent the HLA-B27 negative patients. The horizontal black dashed line represents the 95% point, and the black, blue and red vertical lines represent the age at which 95% of patients developed axial complaints in the total population, HLA-B27 positive and HLA-B27 negative patients respectively.

Figure 1.

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POS0945

NON-RADIOGRAPHIC AXIAL SPONDYLOARTHRITIS IN THE AFRO-CARIBBEAN POPULATION, CLINICAL ASPECTS AND PARTICULARITIES

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Background: Spondyloarthritis is a polymorphic disease and the absence of diagnostic marker has led to propose diagnostic criteria for recognition. All the criteria, established in Caucasian populations, place at the center of the approach sacroiliac imaging and genetic terrain (HLA B27). For this reason, these criteria are not appropriate in populations lacking HLA B27. SPA is known to be rare in African populations and this rarity correlates with that of HLA B27. Prevalence of B27 in French West Indies is 2% (identical to the African populations).

Objectives: We report clinical manifestations of SpA seen at the Fort de France University Hospital, with an emphasis on the so-called "non-radiographic SpA" (NRSPA).

Methods: Adult patients with spondyloarthritis seen over a period of three consecutive months, were invited to participate in a survey and filled-in a self-administered questionnaire. The consulting rheumatologist specified the rheumatologic and extra-articular involvement, BASDAI score, HLAB27 data, markers of inflammation and imaging.