Table 1. Factors associated with discordance: Univariate analysis

	Discordant group n=24	Concordant group n=38	OR (95%CI)	P
History of depression, n (%)	9 (37.5)	1 (2.6)	22 (2.58-190.84)	<0.001
Fibromyalgia (ACR criteria), n (%)	5 (20.8)	1 (2.6)	9.74 (1.06-89.4)	0.028
At least one enthesitis on the Leeds Enthesitis Index, n (%)	14 (58.3)	34 (89.5)	0.17 (0.04-0.61)	0.006
Treatments				
Previous corticosteroid use, n (%)	8 (33.3%)	26 (68.4%)	0.23 (0.08-0.69)	0.007
Disease activity scores et Patients Reported Outcomes				
PROs				
DAS28-CRP > median (2.3), n (%)	19 (79.2)	12 (31.6)	8.23 (2.48-27.32)	<0.001
SDAI > median (5.09), n (%)	21 (87.5)	10 (26.3)	19.6 (4.79-80.18)	<0.001
DAPSA > median (7.97), n (%)	22 (91.7)	9 (23.7)	35.4 (6.9-180.8)	<0.001
BDI > median (3), n (%)	14 (58.3)	10 (26.3)	3.92 (1.32-11.62)	0.012
FIRST > median (2), n (%)	17 (70.8)	11 (28.9)	5.95 (1.94-18.37)	0.001
BASDAI > median (2.45), n (%)	19 (79.2)	12 (31.6)	8.23 (2.48-27.32)	<0.001
HAQ > median (0.1), n (%)	16 (66.7)	11 (28.9)	4.91 (1.63-14.76)	0.004
PCS > median (9), n (%)	18 (75)	11 (28.9)	7.36 (2.3-23.5)	<0.001
PsAID > median (2.1), n (%)	18 (75)	13 (34.2)	5.77 (1.84-18.06)	0.002

FRI0354 FACTORS AFFECTING SELF-REPORTED PHYSICAL ACTIVITY IN PATIENTS WITH PSORIATIC ARTHRITIS

B. Ng¹, P. Wong¹, G. Hassett², K. Gibson². ¹Westmead Hospital, Rheumatology, Sydney, Australia; ²Liverpool Hospital, Rheumatology, Sydney, Australia

Background: Despite the known benefits of exercise¹, patients with osteoarthritis (OA) and rheumatoid arthritis (RA) are reported to have low levels of physical activity². Exercise participation is not well studied in psoriatic arthritis (PsA) cohorts. This study aims to explore which factors predict exercise participation across cohorts and specifically in the PsA cohort.

Objectives: The primary aim of this study was to determine which clinical factors were predictive of self-reported physical activity levels in patients with PsA. A secondary aim was to explore differences in self-reported physical activity levels amongst patients with PsA, OA and RA.

Methods: Patients with the diagnosis of PsA, RA or OA are recruited prospectively at two tertiary hospital rheumatology clinics over 12 months. Demographic data is captured by the multi-dimensional health assessment questionnaire, the international physical activity questionnaire short form captures self-reported physical activity and self-efficacy for exercise (SEE) is assessed using the SEE scale. Clinical data including joint count, body mass index and co-morbidities including fibromyalgia are collected for all patients, in addition to PsA specific data including skin and enthesitis indices.

Results: 205 patients (PsA n=62, RA n=83, OA n=60) were recruited across two sites. There was no significant difference in self-reported physical activity between OA, RA and PsA cohorts. Fibromyalgia was present in 30% of each cohort. In patients with PsA, univariate analysis showed that co-existent fibromyalgia, age and self-efficacy for exercise were predictors of physical activity levels. Skin disease and enthesitis were not predictors of physical activity in the PsA cohort.

Table 1. Univariate Analyses of effect of Clinical Features on Physical Activity levels in PsA

	Non-exercisers versus Exercisers	
	OR (95% CI)	P-value
LEI	1.35 (0.92-1.97)	0.127
PASI	0.8 (0.6-1.07)	0.133
DLQI	1.03 (0.92-1.16)	0.589
BMI	0.97 (0.91-1.04)	0.415
DAS28	0.79 (0.55-1.14)	0.205
Concurrent Fibromyalgia	4.46 (1.37-14.49)	0.012
Age	1.05 (1.00-1.10)	0.013
Self-efficacy for exercise	0.97 (0.95-0.99)	0.019
Pain	1.17 (0.99-1.37)	0.061
Function	1.3 (1.02-1.65)	0.031
Patient global	1.14 (0.96-1.34)	0.128
Depression	0.97 (0.51-1.84)	0.930

Table 2. Multivariable Analysis on Physical Activity in PsA

	Non-exercisers vs Exercisers	
	OR (95% CI)	P-value
Concurrent fibromyalgia	5.1 (1.44-18.08)	0.0117
Age	1.05 (1.00-1.11)	0.0342

Conclusion: In the PsA cohort, fibromyalgia and age were associated with lower levels of physical activity. DLQI, PASI, LEI did not predict physical activity in PsA. Multivariate analysis showed higher pain levels and lower self-efficacy scores were associated with lower physical activity across arthritis groups.

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Dana Georgevsky

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Dr Diana Chessman

Department of Rheumatology, Liverpool Hospital NSW Australia

Department of Rheumatology, Westmead Hospital NSW Australia

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FRI0355 IMPACT OF BIOLOGIC THERAPY ON THE INCIDENCE OF PSA AMONG PATIENTS WITH PSORIASIS

A. Ogdie¹, T. Love², J. Takeshita¹, J. Gelfand¹, J. Scher³, H. Choi^{4,5}, R. Fitzsimmons¹, C. T. Ritchlin⁶, J. F. Merola^{5,7}. ¹University of Pennsylvania, Philadelphia, United States of America; ²University of Iceland, Reykjavik, Iceland; ³New York University, New York, United States of America; ⁴Massachusetts General Hospital, Boston, United States of America; ⁵Harvard Medical School, Boston, United States of America; ⁶University of Rochester, Rochester, United States of America; ⁷Brigham Women's Hospital, Boston, United States of America

Background: One of the strongest known risk factors for the development of psoriatic arthritis (PsA) is psoriasis. A key question is whether treatment of psoriasis may prevent or delay onset of PsA.

Objectives: To compare the incidence of PsA among patients with psoriasis treated with a biologic compared to those treated with a non-biologic therapy for psoriasis

Methods: We performed a retrospective cohort study in the Optum de-identified Electronic Health Record dataset between 2006-2017. Patients with two or more ICD codes for psoriasis between the ages of 16 and 90, who were initiating an oral medication, a biologic therapy, or phototherapy (defined as no preceding codes for the therapy in the prior 12 months) were identified. Covariates at baseline were determined in the 12 months prior to therapy initiation. The outcome of interest was PsA as defined by one ICD code. The incidence of PsA was described overall and within each therapy group. We analyzed the data in two ways: a) a multivariable Cox model using a time varying exposure (once the patient was exposed to a biologic, they were considered always exposed) derived from automated stepwise regression and b) propensity score matching (greedy matching, caliper 0.1) between biologic-exposed patients and oral/phototherapy exposed patients.

Results: Among 215,386 patients with psoriasis without PsA at baseline, 9,848 were excluded for prior biologic exposure, and among the remaining, 60,258 initiated phototherapy, oral or biologic therapy during follow up. Among 22,461 new biologic initiations, 29,121 oral therapy and 8,676 phototherapy initiations, the mean age was lower in the biologics group compared to the non-biologic groups (46.9 vs 50.8), with a similar proportion of females and Caucasians. Observational time was also similar. A total of 1,643, 1,813, and 122 new PsA cases occurred over 60,739, 85,670, and 28,528 person-years (PY) of follow up, respectively (incidence 27.1, 21.2 and 4.2 per 1,000 person years respectively). Using a traditional multivariable adjustment approach with time varying exposure, the age and sex adjusted and fully adjusted HR (95% CI) for biologic users were 1.01 (0.99-1.04) and 0.93 (0.91-0.95), respectively. However, after propensity score matching, the HR (95% CI) was 1.64 (1.51-1.77). Survival curves cross, however, at approximately 8 years (Figure 1) and most of the new diagnoses of PsA occurred shortly after therapy initiation (Figure 2).

Conclusion: Confounding by indication or protopathic bias may explain the observed association of biologic therapy with the development of PsA among patients with psoriasis. Some patients may be receiving therapy because they have both psoriasis and early symptoms of PsA or their PsA diagnosis is not recorded appropriately. Given the directional discrepancy in the results between traditional modeling and propensity score analysis, further work is needed to understand the nature of this relationship.

Figure 1

Figure 3. Directed Acyclic Graph describing potential confounders in relationship between therapy prescription and diagnosis of PsA

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BURDEN OF DISEASE IN PATIENTS INITIATING APREMILAST TREATMENT: 2014-2019 FINDINGS FROM THE CORRONA PSORIATIC ARTHRITIS/SPONDYLOARTHRITIS REGISTRY

A. Ogdie¹, M. Liu², M. Glynn², K. Emeanuru², L. Harrold^{2,3}, J. Mohawk⁴, S. Richter⁴, B. Guette⁴, P. J. Mease⁵. ¹University of Pennsylvania, Philadelphia, United States of America; ²Corrona, LLC, Waltham, United States of America; ³University of Massachusetts Medical School, Worcester, United States of America; ⁴Amgen Inc., Thousand Oaks, United States of America; ⁵Swedish Medical Center/Providence St. Joseph Health and University of Washington School of Medicine, Seattle, United States of America

Background: The prospective, US-based, observational Corrona PsA/SpA Registry collects real-world data on patients (pts) with PsA provided by pts and their providers.

Objectives: To examine trends in characteristics of pts initiating apremilast (APR) from 2014-2019 and compare characteristics of treatment-naïve pts initiating APR or methotrexate (MTX).

Methods: PsA pts aged ≥18 yrs enrolled in the registry who initiated APR, MTX, and/or biologics for PsA from January 2014-August 2019 were included and stratified by year of initiation (2014-2015, 2016-2017, or 2018-2019). Demographics, clinical characteristics, treatment history, disease activity, and pt-reported outcomes (PROs) were analyzed at treatment initiation. Comparisons between treatment-naïve APR vs MTX initiators during the entire 2014-2019 study period were summarized descriptively.

Results: 1460 PsA pts initiated APR (n=238), MTX (n=178), and/or a biologic (n=1044), including treatment-naïve APR (n=20) and MTX (n=99) initiators from 2014-2019. For APR initiators in the 3 successive time periods, respectively, mean disease duration was 10.5, 12.2, and 11.4 yrs, and 87.5%, 82.5%, and 68.6% of pts had prior use of csDMARDs (similar to biologic initiators: 77.9%, 77.2%, and 68.8%). Over time, lower joint, enthesitis, and dactylitis counts, composite disease activity, and PRO measures of disease burden were observed (Table). Compared with treatment-naïve MTX initiators, treatment-naïve APR initiators had longer duration of PsA (8.5 vs 5.5 yrs) and time since PsA diagnosis (3.3 vs 1.8 yrs). Rates of comorbidities such as hypertension (50.0% vs 37.8%), diabetes mellitus (38.9% vs 13.3%), and metabolic syndrome (33.3% vs 8.9%) were higher in treatment-naïve APR vs MTX initiators. Greater proportions of treatment-naïve APR initiators had high/very high disease activity according to CDAI, DAPSA, cDAPSA, PASDAS, and DAS-28 vs MTX initiators.

Conclusion: In this Corrona Registry analysis, PsA pts initiating APR had lower disease burden in recent vs prior yrs, indicating use of APR earlier in the course of PsA is increasing in real-world practice. Treatment-naïve APR initiators had greater disease activity and severity vs MTX initiators. Comorbidities were common at APR initiation.

Table:

Disease Severity and Activity, and PROs for APR Initiators in the Corrona PsA/SpA Registry

Characteristic	2014-2015 n=72	2016-2017 n=80	2018-2019 n=86
SJC (0-66), median (IQR)	2.0 (4.0)	1.0 (3.0)	0.0 (3.0)
TJC (0-68), median (IQR)	5.0 (14.0)	2.0 (4.0)	2.0 (10.0)
SPARCC enthesitis*, mean (SD)	4.7 (3.0)	3.8 (2.2)	3.7 (3.1)
Dactylitis count†, mean (SD)	2.5 (2.5)	2.3 (1.0)	2.2 (2.3)
cDAPSA category, n (%)			
Remission	4 (7.4)	8 (14.8)	13 (15.9)
Low disease activity	12 (22.2)	18 (33.3)	30 (36.6)
Minimal disease activity, n (%)	8 (15.1)	14 (26.9)	21 (25.6)
DAS-28 remission, n (%)	5 (19.2)	8 (32.0)	24 (43.6)
Pain VAS (0-100 mm) >15, n (%)	47 (85.5)	47 (83.9)	60 (73.2)
Pt's Global Assessment of Arthritis VAS (0-100 mm) >20, n (%)	47 (82.5)	45 (77.6)	54 (65.9)
HAQ >0.5, n (%)	39 (69.6)	35 (59.3)	44 (53.7)
Fatigue VAS (0-100 mm), mean (SD)	56.7 (25.4)	49.8 (25.9)	45.6 (31.5)
Spine pain VAS (0-100 mm), mean (SD)	38.8 (27.6)	36.5 (29.6)	28.8 (34.1)
BASDAI‡, mean (SD)	5.4 (2.4)	4.9 (2.5)	4.4 (2.6)
Morning stiffness VAS (0-100 mm), mean (SD)	52.8 (27.3)	51.4 (28.3)	48.0 (31.2)

The n represents the total sample. Number of pts with data available may vary. *Among pts with enthesitis at baseline. †Among pts with dactylitis at baseline. ‡Among pts thought to have spondylitis by the investigator. IQR=interquartile range.