

Biological Initiation Risk in Psoriatic Arthritis Patients Starting Treatment with Apremilast vs. Methotrexate: 1-Year Retrospective Analysis of a US Claims Database

M. Elaine Husni¹, Eunice Chang², Michael S. Broder², Caleb Paydar², Pooja Desai³, Yuri Klyachin³, Ibrahim Khilfeh³

¹Cleveland Clinic, Cleveland, OH ²Partnership for Health Analytic Research, LLC, Beverly Hills, CA, USA; ³Amgen Inc., Thousand Oaks, CA

Background

- Psoriatic arthritis (PsA) treatment guidelines suggest oral small molecules as first line therapy.¹
- Methotrexate (MTX) and apremilast (APR) are the most used options.²
- Evidence comparing APR and MTX in treatment of PSA is limited.³

Objective

To compare the risk of biologic initiation in biologic-naïve PsA patients receiving APR or MTX.

Methods

- Retrospective cohort study using IBM® MarketScan® Commercial and Medicare Supplemental databases.
- Systemic-naïve adult patients with PsA initiating APR or MTX during identification [ID] period (1/1/2015 to 12/31/2018)
 - ≥2 medical claims with ICD-9/10-CM with ≥1 by a rheumatologist, or
 - ≥1 diagnosis for PsA recorded by a rheumatologist AND with ≥1 diagnosis for PsO recorded by a dermatologist, or
 - ≥1 diagnosis for PsA by a rheumatologist AND ≥1 diagnosis for PsO by a dermatologist during study period (1/1/2014 to 12/31/2019).
- Index date defined as date of first APR or MTX fill during the ID period.
- Individuals analyzed as part of their index treatment group regardless of subsequent changes in therapy. Patients were followed for one year.
- Demographics, comorbidities, medication use, and healthcare utilization were analyzed during the baseline period.
- Biologic initiation rate and time to biologic initiation during the follow-up period were analyzed.
- Index therapy proportion of days covered (PDC), rate of discontinuation (a ≥60-day gap in days' supply for the index drug), rate of switch to a biologic or non-index treatment, and rate of restarts were analyzed during the follow-up period.
- Post index risk of biologic initiation was compared between APR and MTX users with logistic (odds ratio [OR]; adjusted rates) and Cox (hazard ratio [HR]) regressions.
 - Regression models adjusted for age, sex, region, index year, prescriber specialty, comorbidities, medication use, and healthcare utilization and costs in the pre-index.
 - P-values and 95% confidence intervals (CIs) were reported.

Sponsorship

Funding for conducting the study as well as for medical writing was provided by Amgen Inc. The authors thank Valerie Phuong Nguyen for writing support.

References

- Gossec L, Baraliakos X, Kerschbaumer A, et al. Ann Rheum Dis. 2020;79(6):700-712. doi:10.1136/annrheumdis-2020-217159
- Coates LC, Kavanaugh A, Mease PJ, et al. Arthritis Rheumatol. Published online March 2016:n/a-n/a. doi:10.1002/art.39573
- Betts KA, Griffith J, Friedman A, Zhou Z-Y, Signorovitch JE, Ganguli A. Curr Med Res Opin. 2016;32(4):721-729. doi:10.1185/03007995.2016.1140026

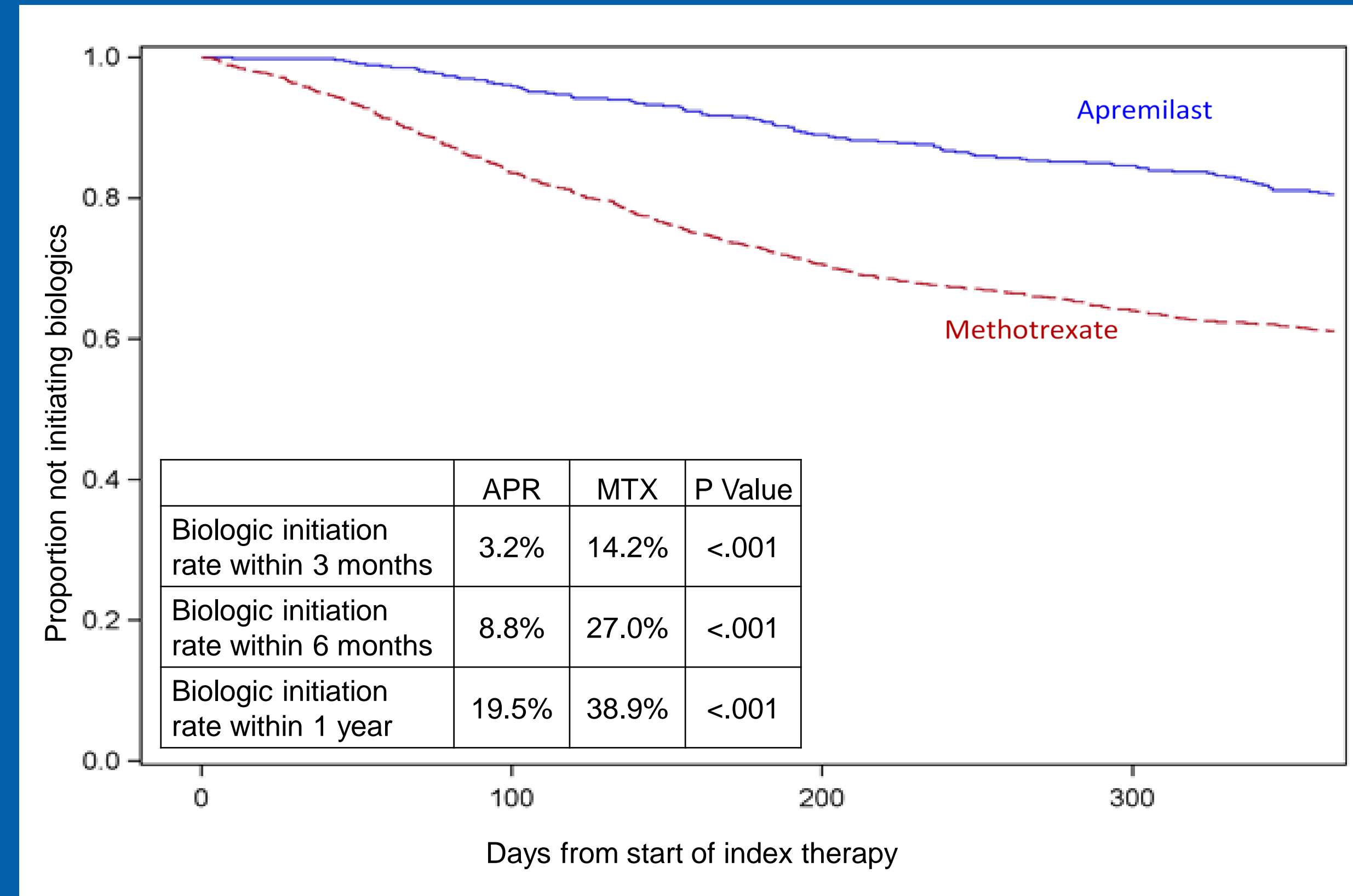


Figure 1: Time to biologic initiation during the follow-up period

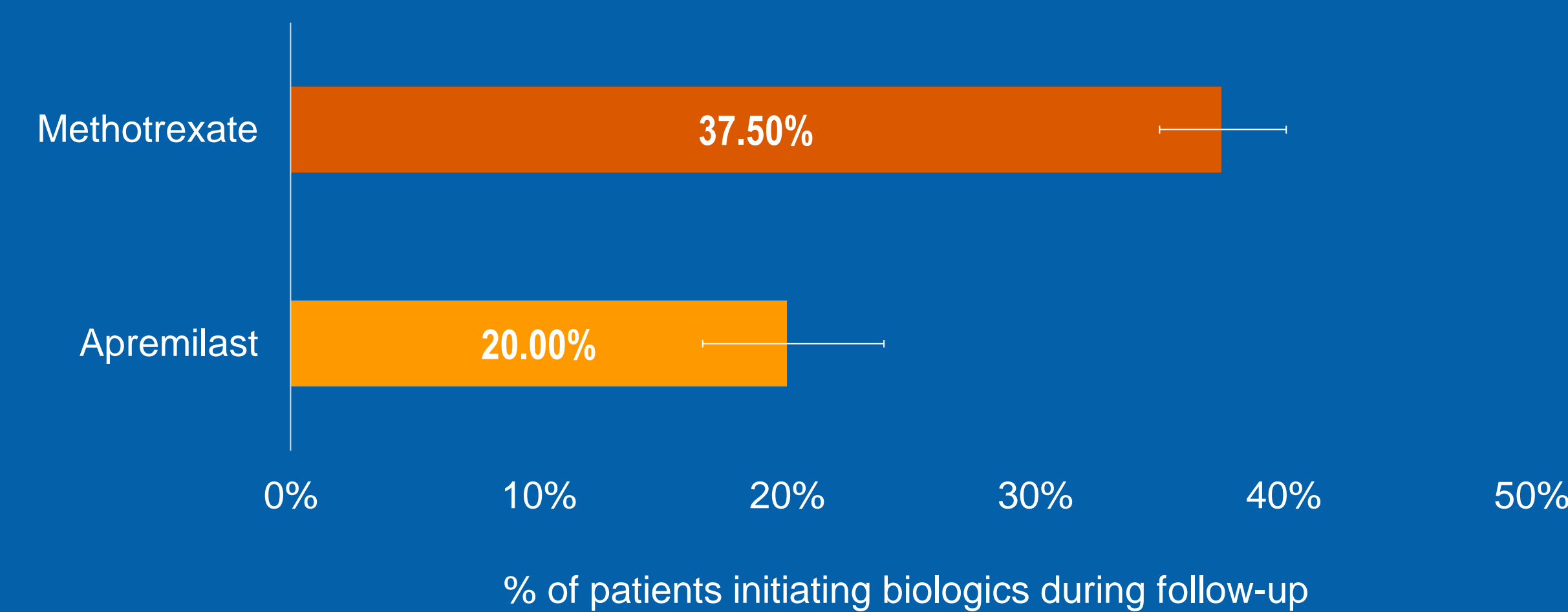


Figure 2: Adjusted rates of biologic initiation

Conclusions

- Systematic-naïve adult patients with PsA who initiated APR were more adherent to their index therapy and had a lower likelihood of biologic initiation when compared with patients initiating MTX.
- Among patients who initiated biologics, APR delayed time to biologic initiation versus MTX.
- APR use may delay initiation of the next line of treatment in patients with PsA, consistent with better symptom control and outcomes when compared to MTX use.

Table 1: Baseline patient characteristics, utilization, and costs

		Apremilast	Methotrexate	All	P Value
	N (%)	534 (25.2)	1,582 (74.8)	2,116 (100)	
Age, years	Mean (SD)	50.5 (11.6)	50.4 (11.3)	50.4 (11.3)	0.938
Female	no. (%)	317 (59.4)	854 (54.0)	1,171 (55.3)	0.031
Insurance type					0.767
Commercial	no. (%)	480 (89.9)	1,429 (90.3)	1,909 (90.2)	
Medicare supplemental	no. (%)	54 (10.1)	153 (9.7)	207 (9.8)	
Prescriber specialty ^a					<.001
Dermatologist	no. (%)	47 (8.8)	50 (3.2)	97 (4.6)	
Rheumatologist	no. (%)	165 (30.9)	1,162 (73.5)	1,327 (62.7)	
Primary care/PA/NP	no. (%)	72 (13.5)	81 (5.1)	153 (7.2)	
Other/Unknown	no. (%)	250 (46.8)	289 (18.3)	539 (25.5)	
Charlson comorbidity index	Mean (SD)	0.7 (1.3)	0.6 (1.1)	0.6 (1.2)	0.024
No. of chronic conditions	Mean (SD)	4.6 (2.1)	4.2 (2.1)	4.3 (2.1)	<.001
PsO	no. (%)	384 (71.9)	940 (59.4)	1324 (62.6)	<.001
Pain medications ^b	no. (%)	327 (61.2)	1,049 (66.3)	1,376 (65.0)	0.034
NSAIDs	no. (%)	252 (47.2)	848 (53.6)	1,100 (52.0)	0.010
Glucocorticoids	no. (%)	188 (35.2)	699 (44.2)	887 (41.9)	<.001
Diagnostic (X-ray, MRI)	no. (%)	342 (64.0)	1,147 (72.5)	1,489 (70.4)	<.001

Results

- 2,116 patients with PsA newly treated with APR (n=534) or MTX (n=1582) were identified.
- Prescriber specialty differed significantly between groups as did mean number of comorbidities (TABLE 1).
- Unadjusted outcomes (TABLE 2, FIGURE 1)
 - At the end of follow-up, fewer APR patients (19.5%) than MTX patients (38.9%) initiated biologic treatment (P<0.001) Median time to biologic initiation (among initiators) was 187 days (APR) vs 120 days (MTX) (P<0.001).
 - The median PDC for the index therapy was 0.73 for the APR cohort and 0.59 for the MTX cohort (P=0.007).
 - The rate of index therapy discontinuation was lower in APR vs MTX (52.1% vs. 57.6%; P=0.024). Among discontinuers, 24.1% restarted APR vs 14.5% of MTX (P<0.001).
- After adjusting for confounders,
 - APR patients still had lower risk of biologic initiation when compared with MTX patients (HR, 0.46 [95% CI, 0.37–0.57]; P<0.001)
 - The likelihood of biologic initiation was statistically significantly lower with APR treatment (OR, 0.42 [95% CI, 0.32–0.54]; P<0.001)
- The adjusted rate of biologic initiation was lower in patients who used APR vs MTX (20.0% [95% CI: 16.6%-23.9%] vs 37.5% [35.0%-40.1%]) (FIGURE 2).

Table 2: Adherence to index therapy during 1-year follow up

		Apremilast	Methotrexate	All	P Value
PDC of index therapy	Mean (SD)	0.62 (0.32)	0.57 (0.34)	0.58 (0.34)	0.007
Days on index therapy	Mean (SD)	237.8 (134.7)	218.4 (138.6)	223.3 (137.9)	0.005
Discontinuation/Switch	no. (%)	278 (52.1)	912 (57.6)	1,190 (56.2)	0.024
Restart index therapy	no. (%)	67 (24.1)	132 (14.5)	199 (16.7)	<.001

Abbreviations: PDC, proportion of days covered; SD, standard deviation.