Medication Adherence Among Moderate to Severe Rheumatoid Arthritis Patients with Similarly Treated Inflammatory Autoimmune Comorbidities

Jonathan Deshazo[1], Djeneba Audrey Djibo[1], Erick Moyneur[1,2], Cheryl N McMahill-Walraven[1], Aaron B. Mendelsohn[3,4], Cate Lockhart[5]

1) Safety Surveillance & Collaboration, CVS Healthspire™ Life Sciences Solutions. 2) StatLog Inc. 3) Harvard Pilgrim Health Care Institute. 4) Harvard Medical School. 5) Biologics and Biosimilars Collective Intelligence Consortium.

Background

- Rheumatoid arthritis (RA) is the most common inflammatory joint disease worldwide.
- T Cell Inhibitors TCI,TNF Inhibitors TNF,, Interleukin Inhibitors ILI, JAK inhibitors JAKI, and B Cell Depletion therapy BCDT classes are indicated as a second line therapy yet are also frequently prescribed as a first line treatment.
- Inflammatory autoimmune conditions such as ankylosing spondylitis (AS), psoriatic arthritis (PsA), psoriasis (PsO), Crohn's disease (CD), ulcerative colitis (UC) co-occur in approximately 7-20% of RA patients but are routinely excluded from real-world RA studies.

Objective

- Describe moderate-to-severe RA medication use and adherence patterns among biologic naïve patients, with and without similarly treated comorbidities.

Methods

- Retrospective cohort study using administrative claims data for approximately 37 million person-years from a large national health insurer, Aetna, a CVS Health company.
- 6-month lookback to establish initiation.
- RA patients using a study drug between 2016-2022 were followed from index use to end of study.
- Persistence was defined as the first dispense date through last dispensed date, plus last dispense days' supply
- Hazard ratios were calculated using a Cox regression model adjusted for age, sex, and combined comorbidity score.

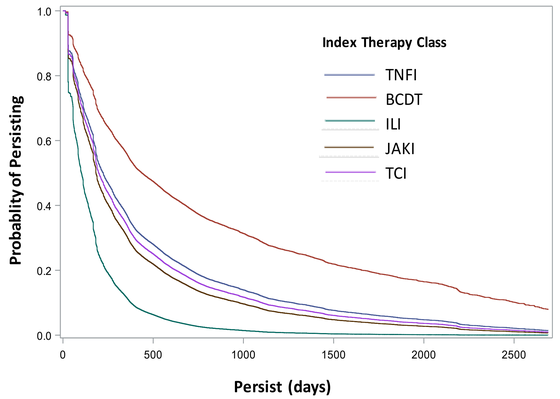
Results

Figure 1. Demographics, Comorbidities, and Initiated Therapies of Patients with RA

	Overall (N=22,946)	TNFI (N=14,787)	BCDT (N=2,666)	ILI (N=2,463)	JAKI (N=1,324)	TCI (N=1,706)
Age (years), mean ± SD	56.7(14.5)	54.4 (14.0)	61.6(14.3)	62.7(15.9)	56.6(12.4)	59.5(13.9)
Age Group n(%)						
18-49 years	7030 (30.6)	5,223 (35.3)	540 (20.3)	499 (20.3)	358 (27.0)	410 (24.0)
50-64 years	9535 (41.6)	6,366 (43.1)	984 (36.9)	834 (33.9)	660 (50.0)	691 (40.5)
≥65 years	6381 (27.8)	3,198 (21.6)	1,142 (42.8)	1,130(45.9)	306 (23.1)	605 (35.5)
Male n(%)	5,984(26.1)	3,923 (26.5)	819 (30.1)	685 (27.8)	284(21.5)	273 (16.0)
Comorbidities						
Ankylosing spondylitis	2,097(9.1)	1,753(11.8)	98(3.7)	112(4.5)	54 (4.1)	80 (4.7)
Psoriatic arthritis	3,694(16.1)	3,172(21.5)	95(3.6)	151 (6.1)	130(9.8)	146 (8.6)
Psoriasis	3,584(15.6)	2,870(19.4)	184(6.9)	225(9.1)	126(9.5)	179 (10.5)
Crohn's Disease	1,130 (4.9)	965(6.5)	54(2.0)	67(2.7)	20(1.5)	24(1.4)
Ulcerative colitis	1,298(5.7)	1,026(6.9)	94(3.5)	98(4.0)	35(2.6)	45(2.6)
Comorbid Condition Score(sd)	4.1(4.1)	3.4(3.6)	6.9(4.8)	5.6(4.5)	3.4(3.6)	4.5(4.1)

Results, cont.

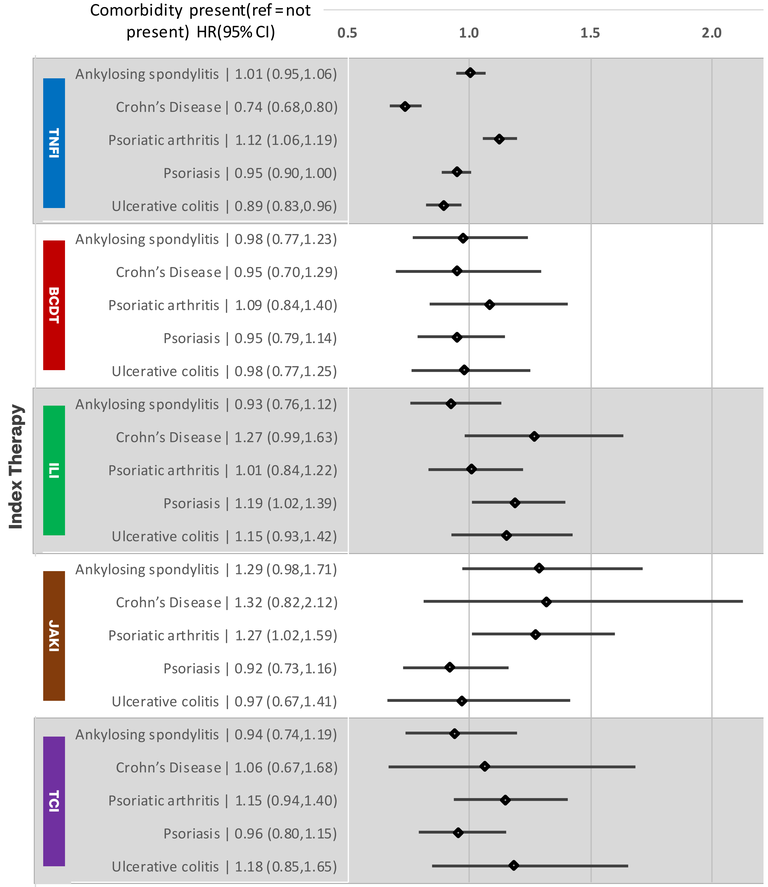
Figure 2. Adjusted Persistence by Drug Class



	6 months	1 year	2 years
	Persist Rate (95% CI)	Persist Rate (95% CI)	Persist Rate (95% CI)
TNFI	0.58 (0.57-0.59)	0.36(0.35-0.37)	0.19(0.19-0.20)
BCDT	0.73(0.71-0.74)	0.55(0.53-0.57)	0.38(0.36-0.40)
ILI	0.30(0.29-0.32)	0.11(0.10-0.12)	0.03(0.02-0.03)
JAKI	0.52(0.50-0.54)	0.29(0.27 -0.32)	0.14(0.13-0.16)
TCI	0.55(0.53-0.57)	0.33(0.31-0.35)	0.17(0.15-0.18)

Results, cont.

Table 1. Hazard Ratio by Biologic Class and Comorbidity at Index



Financial disclosure: This study was funded by the Biologics and Biosimilars Collective Intelligence Consortium.

Contact information: Jonathan.DeShazo@cvshealth.com

Results, cont.

- A total of 22,946 patients with RA were analyzed for persistence and adherence outcomes. The prevalence of comorbidities of interest was AS=9.1%, PsA=16.1%, PsO=15.6%, CD=4.9%, and UC=5.7%, respectively. RA patients with co-diagnosis of CD are less likely to result in cessation (HR 0.77, CL 0.69-0.85) or gap re-initiation (HR 0.87, CL 0.76-0.99) compared with RA patients having no diagnosis of CD.
- RA patients with a co-diagnosis of PsA were more likely to conclude with a gap-reinitiation (HR 1.1, CI 1.02-1.22) or a switch to another therapy (HR 1.20, GI CL 1.09-1.32), compared with RA patients without PsA. Conversely, RA patients with co-diagnosis of PsO were less likely to experience a gap-reinitiation pattern (HR 0.91, CL 0.83-o0.99), compared with RA patients without PsO.
- The hazard of ceasing persistence is moderated by comorbidity within index drug class. Among RA patients initiating on TNFIs, those with CD were less likely to switch or cease (i.e., more likely to persist) compared to those without CD (HR 0.74, CI 0.68-0.80). RA patients with UC were also less likely to switch or cease TNFIs (HR 0.89, CI 0.83-0.96). However, patients with PsA were more likely to switch or cease TNFIs (HR 1.12, CI 1.06-1.19).
- Among RA patients initiated on ILIs, those with PsO are more likely to stop or switch compared to those without PsO (HR 1.19, CI 1.02-1.39).
- Among RA patients initiated on JAKIs, those with PsA were more likely to stop or switch therapy compared to RA patients without PsA (HR1.27. CI 1.02-1.59).

Conclusions

- The effect of similarly treated comorbidities on RA therapy adherence doesn't appear to be cumulative, and directionality varies based on the RA therapy class. These findings may suggest that some therapies are more ideal than others for treating RA patients with co-occurring, inflammatory autoimmune comorbidities.

BBCIC Biologics & Biosimilars *Collective Intelligence Consortium*

CVS Healthspire™

Presented at 2024 Academy Health Annual Research Meeting in Baltimore, MD, USA