Presented at ISPOR Europe, 10th November 2025, Glasgow, Scotland, United Kingdom

Assessing the real-world impact of earlier initiation of anti-tumor necrosis factor vs. conventional synthetic DMARDs on clinical and patient-reported outcomes in patients with rheumatoid arthritis in Europe

CO16

Daniel Aletaha[1], Carmen Bremer[2], Jack Milligan[3], Zichun Cao[4], Rachael Meadows[3], Xenofon Baraliakos[5]

[1]Division of Rheumatology, Medical University Vienna, Austria; [2]Sandoz International GmbH, Holzkirchen, Germany; [3]Adelphi Real World, Bollington, United Kingdom; [4]Sandoz Inc., Princeton, NJ, United States of America; [5]Ruhr University Bochum, Rheumazentrum Ruhrgebiet, Herne, Germany

To obtain a PDF of this poster
Scan QR code to download an electronic version

INTRODUCTION

- Early treatment is critical at managing the beginning of a patient's rheumatoid arthritis (RA). Patients at risk of persistent RA are recommended to initiate treatment with disease-modifying anti-rheumatic drugs (DMARDs) as early as possible[1].
- There is strong evidence to suggest that targeted therapy (TT) with biologic DMARDs such as anti-tumor necrosis factor therapies (Anti-TNFs) improve clinical outcomes for patients with RA when used earlier in the disease course[2,3].
- Biosimilars, such as Sandoz adalimumab (SZ-ADL) are generally less expensive than their reference biologics and demonstrate comparable efficacy for patients with RA[4,5].
- Whilst clinical benefits have been supported in real-world studies, evidence of the impact of earlier TT initiation on patient-reported outcomes (PROs) in RA are limited.

OBJECTIVE

To compare clinician-reported outcomes (ClinROs) and PROs in patients with RA:

- **Receiving an Anti-TNF or SZ-ADL as their first line of TT (1L-TT) for ≥3 months**
- **Receiving a conventional synthetic (cs) DMARD for ≥3 months without having ever received a TT (TT-naïve)**

CONCLUSIONS

Earlier initiation of anti-TNFs for RA can:

- Increase DAS28 remission rates
- Reduce levels of disability
- Reduce activity impairment
- Improve patient adherence to treatment
- Reduce symptoms and increase physicians' treatment satisfaction – as also demonstrated for SZ-ADL

compared to remaining on csDMARD therapy.

Availability of cost-effective biosimilars such as SZ-ADL can facilitate earlier initiation of Anti-TNF therapy in countries where cost is a barrier.

RESULTS

Demographics

- A total of 714 patients were included (Anti-TNF (1L-TT), n=659; SZ-ADL (1L-TT), n=287; csDMARD TT-naïve, n=427), in which a large majority were female, aged 40-65 years, white/Caucasian and had been diagnosed with RA for an average of 4-6 years **(Table 1)**.
- Patients across all groups on had received 1-2 csDMARD lines on average (including their current line if receiving a csDMARD) **(Table 1)**.

Table 1: Pre-Weighted Demographics, Time Since Diagnosis and csDMARD Lines

	Anti-TNF (1L-TT), n=659	SZ-ADL (1L-TT), n=287	csDMARD (TT-naïve), n=427
Age in years (mean ± SD)	50.5 ± 13.22	49.9 ± 12.23	53.2 ± 13.66
Biological sex, n (%)			
Female	473 (72%)	201 (70%)	294 (69%)
Ethnic origin, n (%)			
White/Caucasian[a]	485 (91%)	221 (91%)	349 (93%)
Time since diagnosis in years[b] (mean ± SD)	5.6 ± 6.15	4.7 ± 5.32	4.4 ± 6.09
Number of csDMARD lines[c] (mean ± SD)	1.3 ± 0.78	1.4 ± 0.7	1.6 ± 0.9

[a]n=531 (Anti-TNF), n=242 (SZ-ADL), n=376 (csDMARD) due to data missing data; [b]n=579 (Anti-TNF), n=256 (SZ-ADL), n=407 (csDMARD) due to missing data; [c]Number of csDMARD lines includes their current csDMARD.

Table 2: Inverse Probability Weighting

Weighting Covariates	ClinROs Model				PROs Model	
	SMDs* (% difference with csDMARD)					
	Anti-TNF (1L-TT)		SZ-ADL (1L-TT)		Anti-TNF (1L-TT)	
	Pre-Weighted	Weighted	Pre-Weighted	Weighted	Pre-Weighted	Weighted
Age at initiation of current therapy	-21.87	16.71	-18.46	6.03	-53.68	-1.64
Biological sex	8.04	4.07	0.68	1.95	30.74	24.48
Concomitant autoimmune condition**	11.50	8.10	15.63	9.37	-4.78	7.84
DAS-28* at initiation of current therapy**	64.57	15.15	52.57	11.00	91.53	4.24
Charlson Comorbidity Index	-19.16	15.26	-17.54	-0.62	-31.24	22.89
Duration of time receiving csDMARD therapy (excluding current line)	7.13	2.03	0.88	4.17	5.57	8.07
Number of months from diagnosis to initiation of current treatment	96.19	-14.90	86.45	-5.83	N/A#	N/A#

*SMDs (Standardized Mean Differences) represent the differences in means between the groups in units of standard deviation. These have been converted to a percentage. Anti-TNF and SZ-ADL were weighted separately with csDMARD; **Concomitant autoimmune condition was defined as: Ankylosing spondylitis, Connective tissue disease, Crohn's disease, Lupus, Multiple sclerosis, Non-radiographic axial spondyloarthritis, Psoriasis, Psoriatic arthritis, Ulcerative colitis, Uveitis, Vasculitis; *** 28-joint Disease Activity Score; #This variable was removed from the PRO model to maintain sample size.

Weighted ClinROs

- The Anti-TNF group had significantly higher 28-joint Disease Activity Score (DAS-28) remission rates, fewer symptoms, higher physician satisfaction with treatment, and higher rates of treatment adherence than the csDMARD group **(Figure 1a).**
- Similarly, SZ-ADL had significantly fewer symptoms and higher physician satisfaction with treatment than csDMARD **(Figure 1b)**.

Weighted PROs

- Anti-TNF patients themselves reported significantly lower HAQ-DI disability, more often reported having no RA symptoms or mild disease, mild pain, and reported significantly less WPAI activity impairment than csDMARD patients **(Figure 2)**.

Figure 1a: Weighted Clinician-Reported Outcomes (Anti-TNF vs. csDMARD)

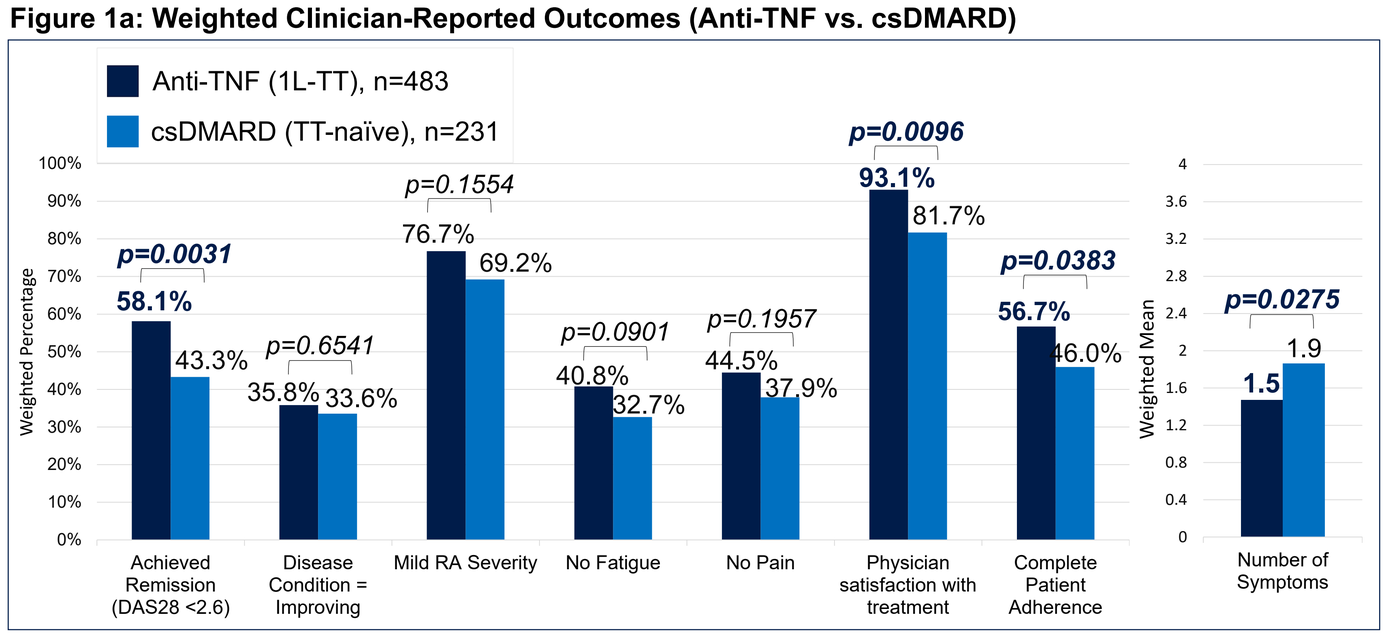


Figure 1b: Weighted Clinician-Reported Outcomes (SZ-ADL vs. csDMARD)

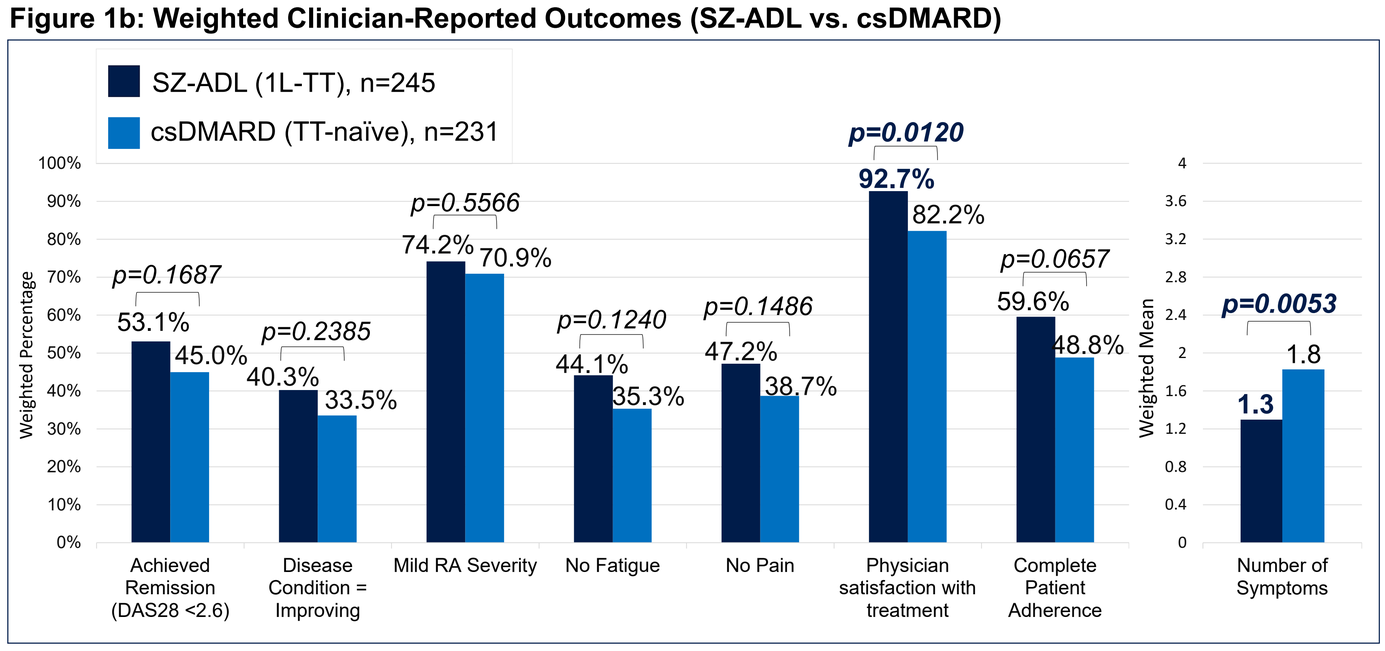
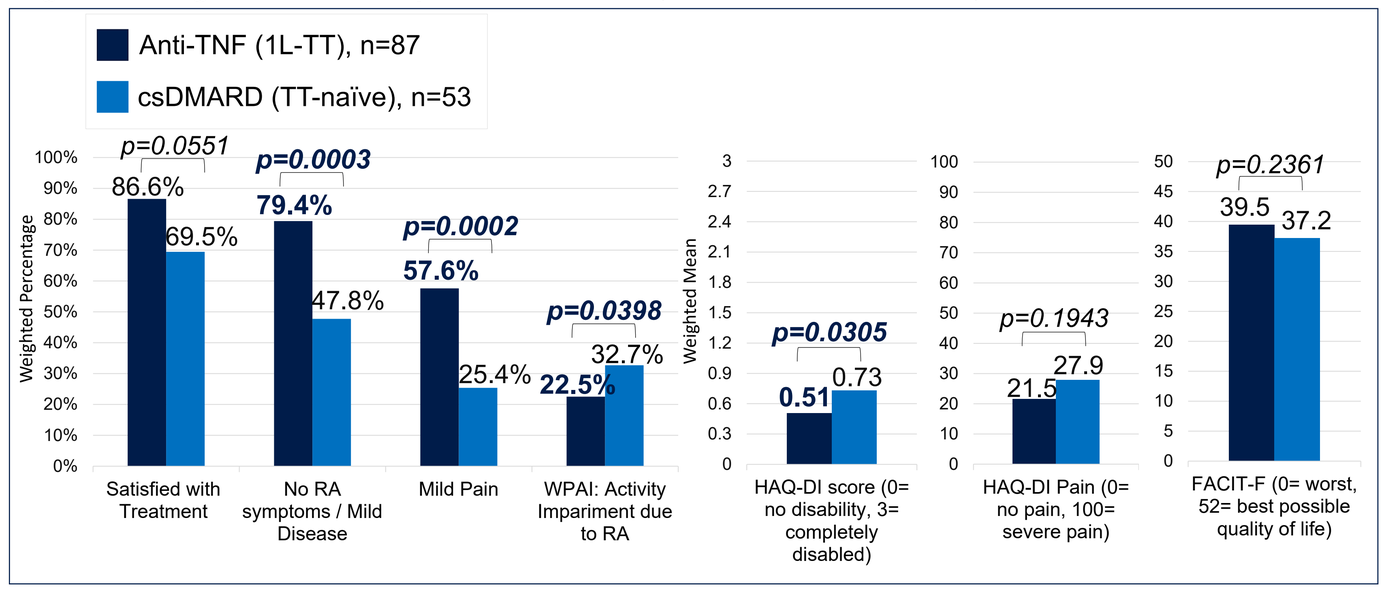


Figure 2: Weighted Patient-Reported Outcomes (Anti-TNF vs. csDMARD)



METHODS

Data Source and Patient Population

- Data were drawn from the Adelphi RA Disease Specific Programme (DSP™)[6], a cross-sectional survey of rheumatologists and their consulting patients with RA in a real-world clinical setting in France, Italy, Germany, Spain and the UK between July 2023 and August 2024.
- Rheumatologists, referring to their clinical notes and patients' medical records, provided ClinROs and patients voluntarily completed a questionnaire providing PROs.

Statistical Analysis

- ClinROs and PROs were assessed in Anti-TNF (1L-TT) patients using inverse probability weighted regression adjustment (IPWRA) with csDMARD (TT-naïve) patients as a comparison group. ClinROs of SZ-ADL (1L-TT) patients were also compared with the csDMARD group using the same method (**Figure 1**).
- Groups were weighted within a <25% standardized mean difference in their demographics, baseline characteristics and treatment history **(Table 2).**
- Regression was adjusted for these weighted variables and for current therapy duration.

LIMITATIONS

- The Adelphi RA DSP™ do not constitute a true random sample, as patients who consult more frequently are more likely to be included in the sample. However, physicians were asked to provide data for their next several consecutively consulting patients who met the DSP inclusion criteria to reduce selection bias.
- Residual confounding factors may exist that were not observed as part of the survey and therefore not accounted for during weighting.

REFERENCES

[1] Combe B., et al. 2016 update of the EULAR recommendations for the management of early arthritis. *Annals of the rheumatic diseases* 2017; *76*(6), pp.948-959.
[2] Emery P., et al. Combination etanercept and methotrexate provides better disease control in very early (<=4 months) versus early rheumatoid arthritis (>4 months and <2 years): post hoc analyses from the COMET study. *Ann Rheum Dis* 2012; 71: 989-992.
[3] Smolen J.S., et al. EULAR recommendations for the management of rheumatoid arthritis with synthetic and biological disease-modifying antirheumatic drugs: 2019 update. *Ann Rheum Dis* 2020; 79: 685-699.
[4] de Oliveira Ascef B., and UK: the Disease Specific Programme. *BMJ Open* 2016; 6(8). et al. Therapeutic equivalence of biosimilar and reference biologic drugs in rheumatoid arthritis: A systematic review and meta-analysis. *JAMA Network Open* 6.5 2023; e2315872-e2315872.
[5] Baumgart D.C., et al. Biological Therapies in Immune-Mediated Inflammatory Diseases: Can Biosimilars Reduce Access Inequities? *Front Pharmacol* 2019; 28;10:279.
[6] Babineaux S.M., et al. Evidence for validity of a national physician and patient-reported, cross-sectional survey in China

Daniel Aletaha receives grants from Lilly, speaker or consultancy fees from AbbVie, Gilead, J&J, Lilly, MSD, Novartis and Sandoz. Carmen Bremer and Zichun Cao are employees and shareholders of Sandoz. Jack Milligan and Rachael Meadows are employees of Adelphi Real World, who acted as consultants to Sandoz for this analysis and have no other conflicts of interest. Xenofon Baraliakos is a member of the scientific advisory board and a consultant for AbbVie, Advanz, Alexion, Alphasigma, Amgen, AstraZeneca, BMS, Cesas, Celltrion, Clarivate, Galapagos, J&J, Lilly, Moonlake, Novartis, Peervoice, Pfizer, Roche, Sandoz, Springer, Stada, Takeda, UCB and Zuellig. Xenofon Baraliakos also receives research grants from AbbVie, Celltrion, Janssen, Moonlake and Novartis. Xenofron Baraliakos is the EULAR President-Elect and past President of ASAS.

Data collection was undertaken by Adelphi Real World as part of an independent survey, entitled the Adelphi RA DSP™. The DSP is a wholly owned Adelphi product and is the intellectual property of Adelphi Real World. The analysis described here used data from the Adelphi RA DSP. Sandoz was one of multiple subscribers to the DSP and did not influence the original survey neither through contribution to the design of questionnaires nor data collection. All authors had access to the data results and participated in the development, review, and approval of this publication. No honoraria or payments were made for authorship.