Table 1. Follow-up Healthcare Cost and Utilization for SLE/LN Case and Control Population

	SLE with MH Comorbidities N=3,880 (WMH)	SLE without MH comorbidities N=3,880 (NMH)	P- value	LN with MH Comorbidities N=168 (WMH)	LN without MH comorbidities N=168 (NMH)	P- value
All-cause health care utilization PPPY	Mean	Mean		Mean	Mean	
Mean # inpatient visits	1.36	0.50	<0.0001	1.86	0.86	<0.0001
Mean # outpatient visits	32.11	21.67	<0.0001	47.85	29.45	<0.0001
Mean # office visits	13.49	9.74	<0.0001	14.94	10.29	<0.0001
Mean # ER visits	1.27	0.66	<0.0001	1.40	0.63	0.0005
Mean # other outpatient visits	25.55	17.08	<0.0001	41.48	24.19	<0.0001
Mean # pharmacy Rx	33.33	20.82	<0.0001	36.96	23.81	<0.0001
Length of inpatient stay (mean, days)	3.69	1.09	<0.0001	9.53	2.37	<0.0001
All-cause health care costs PPPY						
Outpatient costs (ER+ office +other)	\$19,271	\$12,847	<0.0001	\$34,956	\$19,530	<0.0001
Pharmacy costs	\$7,222	\$4,707	<0.0001	\$7,874	\$4,254	<0.0001
Inpatient costs	\$22,605	\$8,191	<0.0001	\$68,216	\$14,680	<0.0001
Total costs	\$49,553	\$26,064	<0.0001	\$112,169	\$39,529	<0.0001

PPPY: Per patient per year; ER: Emergency room; LN: Lupus nephritis; SLE: Systemic lupus erythematosus

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Rheumatoid Arthritis - comorbidity and clinical aspects - Part 2

POS0305 PHYSICIAN AND PATIENT ATTITUDES TOWARDS TREAT-TO-TARGET, ITS IMPLEMENTATION AND STATED TREATMENT GOALS IN PATIENTS WITH RHEUMATOID ARTHRITIS IN A REAL-WORLD SETTING ACROSS EUROPE

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Background: The principles of treat to target (T2T) include defining an appropriate treatment target, assessed at pre-defined intervals, with a commitment to changing therapeutic approach if the target is not met (1). T2T is recommended as a key strategy for the treatment of rheumatoid arthritis (RA).

Objectives: To explore attitudes towards T2T, its implementation and stated treatment goals among physicians and their patients with RA.

Methods: The Adelphi RA Disease Specific Programme™ was a large, quantitative, point-in-time survey conducted amongst rheumatologists (n=296) and their consulting patients with RA (n=3042) in Europe (France, Germany, Italy,

Spain, UK) between Q4 2019–Q3 2020. Physicians were recruited via publicly available lists, completing an online survey and medical record extraction for their next 10–12 consecutive patients. The same patients were invited to voluntarily complete a self-report questionnaire (n=1098, 36% response), collecting data on attitudes towards T2T and treatment goals.

Results: Physicians reported that 76% of patients were in remission (DAS28: <2.6) or had low disease activity (DAS28: 2.6 – 3.2), and 24% had moderate-high disease activity (DAS28: >3.2). Patient mean age was 53.0 years (SD 14.0), mean time since diagnosis was 7.2 years (SD 7.2). The proportion of patients currently receiving an advanced therapy (AT; defined as biologic or targeted synthetic DMARD) was 68%, of whom 70% were on a first line AT. No difference was observed between disease activity groups.

In the physician survey, 86% of physicians stated they followed T2T principals in at least some of their RA patients, and would utilize a T2T approach in RA patients with moderate-high disease activity (61%), the most uncontrolled patients (37%) and those who do not respond well to initial therapy (34%). In this sample of real-world RA patients, 66% were reported by physicians to be on a T2T plan at the time of data collection. The most common physician-reported targets were remission (DAS28: <2.6) (75%), improvement of quality of life (QoL) (41%) and reduction of pain (31%), with 85% of physicians perceiving these treatment goals were fully or partially met. The most stated reasons for not implementing T2T was physician preference not to adjust current treatment (34%), patient preference not to adjust current treatment (23%), and there are no achievable goals for this patient (16%).

Overall, 29% of patients reported they were involved in setting their T2T goals, while 34% stated their T2T goals were set by their physicians only, and 29% perceived no T2T goal had been set (n=620). The most common overall T2T goals from the patient perspective were remission (61%), controlling symptoms (41%), and reducing impact on QoL (34%). Of those patients who acknowledged a T2T goal had been set (n=407), 77% reported their T2T goal was fully or partially achieved.

Of 719 patients who had moderate-high disease activity, 57% were on a T2T plan, with 46% of physicians perceiving these treatment goals were fully or partially met. The most common physician-stated reason for not implementing T2T was a lack of achievable targets (29%).

Conclusion: Rheumatologists in this study reported a strong belief in T2T. The most common physician-set T2T goals were remission, improvement of QoL and reduction of pain, corresponding with T2T goals as reported by patients. However, a third of patients in this cohort were not aware of a defined T2T objective in their management, which may be a result of a perceived lack of achievable goals by physicians. It may be desirable to promote more patient involvement in defining achievable targets amongst those with moderate-high disease activity who despite best efforts may not reach a clinical state of remission. Further research is needed to identify and understand goals important to RA patients.

REFERENCES:

- [1] van Vollenhoven R. Treat-to-target in rheumatoid arthritis - are we there yet? *Nat Rev Rheumatol*. 2019;15(3):180-6.

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POS0306

IMPACT OF MULTIMORBIDITY ON DISEASE MODIFYING ANTI-RHEUMATIC DRUG THERAPY IN EARLY RHEUMATOID ARTHRITIS: DATA FROM THE ESPOIR COHORT

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Background: Multimorbidity is frequent in rheumatoid arthritis (RA) and could interfere with the therapeutic response.

Objectives: The aim of this study was to evaluate multimorbidity in the French cohort of early arthritis (ESPOIR cohort) and its possible impact on the therapeutic response.

Methods: We included patients fulfilling 2010 ACR/EULAR criteria for RA. An adapted MultiMorbidity Index (aMMI) was developed [1]. Each patient was assigned scores of binary aMMI (0= no comorbidity, 1= at least 1 comorbidity) and counted and weighted aMMI. The primary endpoint was achievement of Clinical Disease Activity Index (CDAI) low disease activity after initiation of a first disease-modifying anti-rheumatic drug (DMARD) according to the aMMI. Secondary endpoints were other disease activity scores and response criteria. We collected data from the visit preceding the first DMARD initiation (baseline visit) and the visit after at least 3 months of treatment (follow-up visit). The impact of aMMI on therapeutic maintenance at 1, 3, 5 and 10 years was evaluated.

Results: Analyses involved 472 patients: 302 (64%) had at least 1 comorbidity. Overall, 45.3% and 44.7% with binary aMMI= 0 or 1, respectively (p= 0.9), achieved CDAI low disease activity (Table 1). Similar results were found with counted and weighted aMMI. Use of other disease activity scores or response criteria did not show a significant impact of multimorbidity on the therapeutic response. Therapeutic maintenance was significantly better with binary aMMI = 1 than binary aMMI = 0. Increased counted aMMI was associated with increased probability of still being on the first initiated DMARD at each time point (Table 2).

Conclusion: In the ESPOIR cohort, therapeutic response to a first DMARD was not affected by multimorbidity but therapeutic maintenance was better in multimorbid patients.

REFERENCES:

- Radner H, Yoshida K, Mjaavatten MD, et al. Development of a multimorbidity index: Impact on quality of life using a rheumatoid arthritis cohort. *Semin Arthritis Rheum* 2015;45:167–73.

Table 1. Impact of aMMIs on CDAI, DAS28 and SDAI low disease activity (LDA) achievement at follow-up visit (univariate analyses)

	LDA achievement								
	CDAI			DAS28			SDAI		
	Yes	No	p	Yes	No	p	Yes	No	p
Binary aMMI, n (%)									
0	77 (45.3)	93 (54.7)	0.9 [*]	85 (50.0)	85 (50.0)	0.2 [*]	80 (47.1)	90 (52.9)	0.9 [*]
1	135 (44.7)	167 (55.3)		131 (43.4)	171 (56.6)		141 (46.7)	161 (53.3)	
Counted aMMI, mean (SD)	1.0 (1.1)	1.1 (1.1)	0.7	1.0 (1.1)	1.1 (1.1)	0.2	1.1 (1.1)	1.1 (1.1)	1.0
Weighted aMMI, mean (SD)	4.1 (5.2)	4.0 (4.7)	0.9	4.0 (5.2)	4.1 (4.7)	0.3	4.0 (5.0)	4.0 (4.9)	1.0

aMMI= adapted MultiMorbidity Index; CDAI= Clinical Disease Activity Index; SDAI= Simplified Disease Activity Index. Proportion of patients achieving LDA between patients with binary aMMI= 0 and binary aMMI= 1. Because of no statistically significant results, no multivariate analysis was performed.

Table 2. Probability of first DMARD maintenance at 1, 3, 5 and 10 years (multivariate analysis)

Time point	First DMARD maintained or stopped	Binary aMMI [#]		Counted aMMI [§]
		0	1	
1 year	Maintenance (n= 300) OR [95% CI]*	2 [286.2->999]	298 > 999	1.71 (0.93) 221.3
(n= 530)	Withdrawal (n= 230)	205	25	[84.0-583.0] 0.12 (0.37)
3 years	Maintenance (n= 285) OR [95% CI]*	10 153.9	275	1.66 (0.94) 26.1
(n= 493)	Withdrawal (n= 208)	175	33	[15.1-45.3] 0.22 (0.64)
5 years	Maintenance (n= 116) OR [95% CI]*	9 10.9	107	1.72 (1.05) 2.2
(n= 459)	Withdrawal (n= 343)	163	180	[1.8-2.7] 0.82 (1.0)
10 years	Maintenance (n= 40) OR [95% CI]*	2 14.0	38	1.58 (0.84) 1.6
(n= 415)	Withdrawal (n= 375)	158	217	[1.2-2.0] 0.99 (1.12)

[#]data are number of patients [§]data are mean (standard error)* data are odds ratios (ORs) and 95% confidence intervals (95% CI) of still being on the first initiated DMARD at 1, 3, 5 and 10 years between patients with binary aMMI = 1 and binary aMMI = 0 and according to counted aMMI, per additional point.

The variables included in multivariate analyses were sex, rheumatoid factor and/or anti-citrullinated peptide antibody positivity, age, CDAI at baseline visit, number of treatments at baseline visit.

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POS0307

FATIGUE IN RHEUMATOID ARTHRITIS PATIENTS IS ASSOCIATED TO SUBJECTIVE BUT NOT OBJECTIVE ASSESSMENTS OF DISEASE ACTIVITY DURING TREATMENT WITH TOCILIZUMAB

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Background: Fatigue is common in patients with rheumatoid arthritis (RA), and its association with inflammatory activity is not fully understood.

Objectives: To explore the associations between fatigue and inflammation by clinical, laboratory and ultrasound examinations during follow-up of RA patients on biological treatment.