Supplementary Table S1. Comorbidities within included studies.
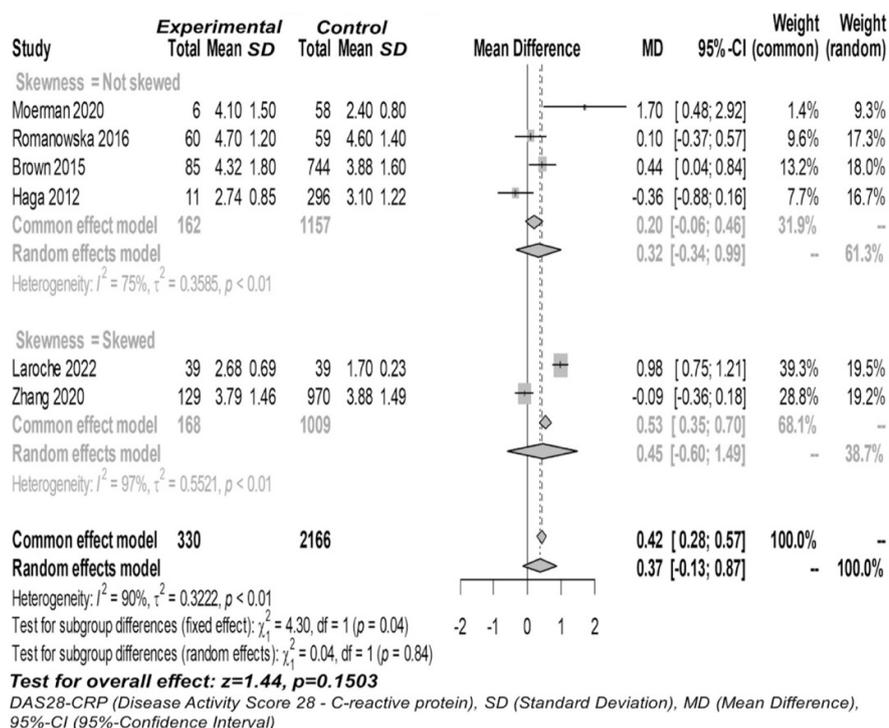
References	Harrold 2020	Kim 2020
	N/T (%); RA, RA/SS	**N/T (%); RA, RA/SS**
HT	5214/16658 (31.3%), 2909/7870 (37.0%)	183/755 (24.2%), 9/72 (12.5%)
CVD	1710/16658 (10.3%),1219/7870 (15.5%)	N/A
Maligancy	1821/16658 (15.5%),1223/7870 (10.9%)	16/755 (2.1%), 3/72 (4.2%)
Infection	845/16658 (5.1%) ,795/7870 (10.1%)	N/A
Diabetes	1416/16658 (8.5%), 775/7870 (9.8%)	70/755 (9.3%), 1/72 (1.4%)
Asthma	590/16658 (3.5%), 403/7870 (5.1%)	N/A
COPD	355/16658 (2.1%), 270/7870 (3.4%)	N/A
ILD / PF	81/16658 (0.5%), 81/7870 (1.0%)	33/735 (4.4%), 1/72 (1.4%)

References	Yang 2018	He 2016
	N/T (%); RA, RA/SS	**N/T (%); RA, RA/SS**
HT	N/A	132/435 (30.3%), /74 (28.4%)
CVD	N/A	17/435 (3.9%), 7/74 (9.5%)
Diabetes	N/A	45/435 (10.3%), 5/74 (6.8%)
ILD / PF	43/210 (20.4%),45/105 (42.8%)	51/435 (11.7%), 33/74 (44.6%)
Renal I	25/210 (11.9%),15/105 (14.3%)	N/A (4.81%), N/A (14.9%)*
Nervous I	8/210 (3.8%), 9/105 (8.6%)	10/435 (0.23%), 20/74 (2.7%)

References	Lins 2016
	N/T (%); RA, RA/SS
HT	24/162 (14.8%), 15/39 (38.5%)
Diabetes	10/162 (6.2%), 5/39 (12.8%)

N: number of patients; T: total number of patients with data available; %: proportion with comorbidities; N/A: no data available; RA: rheumatoid arthritis; SS: Sjögren's syndrome; HT: hypertension; CVD: cardio vascular disease; COPD: chronic obstructive pulmonary disease; ILD: interstitial lung disease; PF: pulmonary fibrosis; I: involvement.
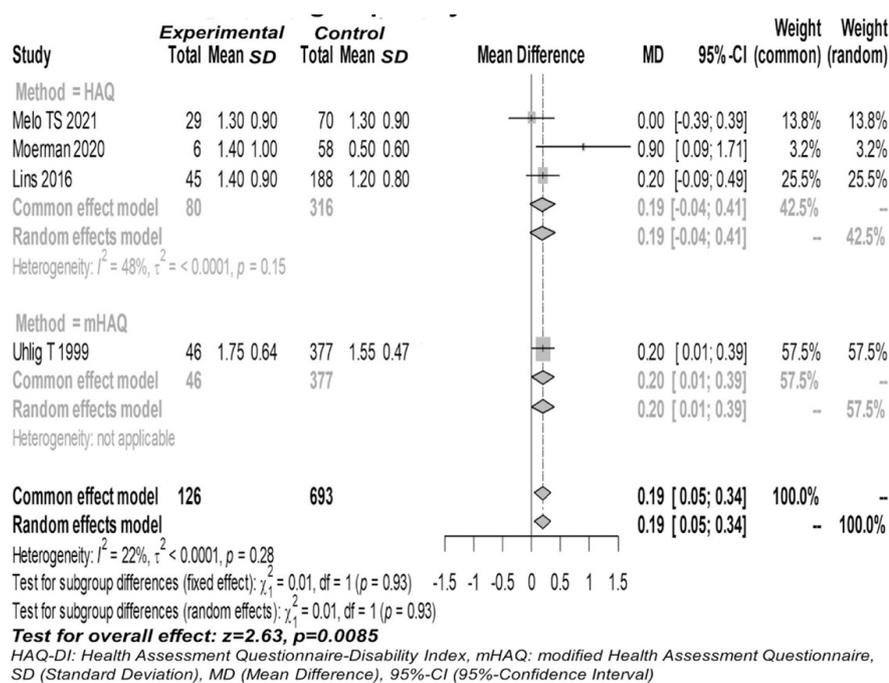*Only proportions are available.

Supplementary Table S2. Characteristics of RA therapy.

	MTX	Steroid
References	**N/T (%); RA, RA/SS, *p***	**N/T (%) p; RA, RA/SS, *p***
Brown	350/744 (47.1%), 41/85 (48.2%), *p*= 0.09	N/A
Lins	N/A	103/162 (63.6%), 26/39 (66.7%), *p*= 0.718
Yang	N/A	29/210 (13.8%), 89/105 (84.8%), *p* <0.001
Laroche	17/39 (43.6%), 9/39 (23.1%), *p*= 0.05	3/39 (7.7%), 17/39 (43.6%), *p*= 0.0001
Kim	214/744 (28.3%), 23/72 (31.9%), *p*= 0.519	328/744 (43.4%), 37/74 (51.4%), *p*= 0.195
Haga	207/296 (69.9%), 7/11 (63.6%), *p*= NS	87/296 (29.4%), 3/11 (27.3%), *p*= NS

	Anti-TNF	Rituximab
References	**N/T (%); RA, RA/SS, *p***	**N/T (%); RA, RA/SS, *p***
Brown	263/744 (35.4%), 39/85 (45.9%), *p*= 0.06	N/A
Laroche	22/39 (56.4%), 10/39 (25.6%), *p*= 0.006	1/39 (2.6%), 13/39 (33.3%), *p*= 0.0006
Kim	79 /744 (10.5%), 4/72 (5.6%) *p*=0.185	N/A

	Sulfasalazine	Tacrolimus
References	**N/T (%); RA, RA/SS, *p***	**N/T (%); RA, RA/SS, *p***
Kim	31/744 (4.1%), 3/72 (4.2%) *p*=0.980	92/744 (12.2%), 4/72 (5.6%), *p*=0.093
Haga	96/296 (32.4%), 5/11 (45.5%) *p*= NS	N/A

	Anti-IL6	JAK I
References	**N/T (%); RA, RA/SS, *p***	**N/T (%); RA, RA/SS, p**
Laroche	3/39 (7.7%), 5/39 (12.8%), *p*=0.7	7/39 (13.9%), 3/39 (7.7%), *p*=0.3

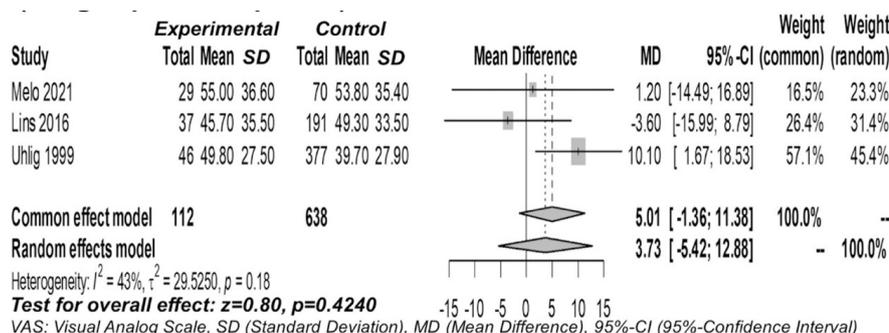|	Leflunomide	Hydroxychloroquine
References	**N/T (%); RA, RA/SS, *p***	**N/T (%); RA, RA/SS, *p***
Kim	163/744 (21.6%), 21/72 (29.2%), *p*=0.140	135/744 (17.9%), 15/72 (20.8%), *p*=0.535

RA: rheumatoid arthritis; SS: Sjögren's syndrome; N: number of patients; T: total number of patients data available; %: proportion with comorbidities; p: *p* value; N/A: no data available; NS: not significant; MTX: methotrexate; TNF: tumour necrosis factor; IL: interleukin; JAK I: Janus Kinase Inhibitor.

Supplementary Fig. S1. Forest plots of the meta-analysis on DAS28-CRP with subgroup analysis.

Supplementary Fig. S2. Forest plots of the meta-analysis on HAQ-DI and mHAQ with subgroup analysis.

Supplementary Fig. S3. Forest plots of the meta-analysis on VAS (fatigue patient-reported).