

Author/Year	Comorbidities	Co-variables (where specified)
Alarcón 2014 (21)	.	.
Andersson 2013 (39)	.	baseline age, disease duration, sex, RF, smoking, number previous DMARDs & biologics, BMI
ERAS study group (Young) 2000 (3)	.	age, sex, treatment centre, baseline HAQ
Baldassari 2014 (30)	Clinical comorbidity index based on 23 doctor-diagnosed conditions	sex, age, disease duration, comorbidities, body mass index, smoking, methotrexate/leflunomide use, biologics
Barton 2011 (31)	.	age, gender, disease duration, RF status, clinic site, education level, medication use, corticosteroids (recorded separately)
Berkanovic 1996 (32)	Mean number of comorbidities 1.05, range 0-5	disease activity, comorbidity, age, gender, social network, income, education
Brekke 1999 (38)	Mean 1.1 in respondents	gender, age, disease, duration, RF positivity, comorbidity, marital status
Callhoff 2017 (33)	.	sex, age, BMI, smoking (ever), rheumatologic care, and treatment with conventional synthetic or biologic DMARD
Camacho 2012 (16)	.	age at symptom onset, symptom duration, sex, learned helplessness
Chandrashekar 2018 (34)	Recorded as either present or absent: bronchial asthma, chronic heart failure, diabetes mellitus, hypertension, hypercholesterolemia and thyroid illness. Occurrence of any one of the comorbidities was classified as 'presence of comorbidity'	age, gender, education, working status, family income, smoking status, distal interphalangeal joint involvement, DMARD combination, NSAIDs, biologics and steroids, comorbidity
Clave-Testino 1994 (23)	Patients with severe comorbidity excluded. Defined as: systemic arterial HTN, chronic renal failure, CHF, chronic liver disease, DM	age, sex, disease duration, RF positivity (matching)
Gamboa-Cardenas 2019 (14)	.	gender, age at diagnosis, socioeconomic status (measured by the Graffar scale), ethnicity, symptoms' duration, delay on initiation of DMARDs, RF positivity (not specified which are co-variables)
Gong 2016 (35)	Persons with cognitive impairment or current severe diseases, such as cancer and stroke, were excluded. About one quarter of the participants (24.6%) had at least one comorbid disease, such as hypertension (5.8%), digestive system disorders (3.9%), heart disease (2.4%), and anaemia (1.9%).	.
Hallert 2015 (36)	.	.
Harrison 2009 (17)	.	baseline HAQ score, age, sex, symptom duration of patients, and smoking status at baseline
Harrison 2005 (1)	Comorbidity information collected at baseline. Conditions grouped according to body system: cardiovascular disease including hypertension, psychiatric including depression, respiratory, endocrine, gastrointestinal, nervous system.	age, sex, disease duration, current smoking, treatment centre, and treatment group
Jacobi 2003 (4)	.	age, sex, and disease duration
Jiang 2015 (24)	.	age at diagnosis, sex, pack-years of cigarettes smoking, total alcohol, BMI, outcome measure at baseline
Kearsley-Fleet 2018 (18)	Categorised as 1, 2, 3+	multiple imputation: bDMARD refractory status, registration year, registered TNFi, gender, age at first TNFi, comorbidities and follow-up time until failure or end of study

Linde 2009 (25)	Categorised as 1, 2, 3+	sex, age, and disease duration
Massardo 2012 (15)	.	age, sex, ethnic group, educational level, SES, marital status, and type of medical insurance coverage
McEntegart 1997 (2)	.	.
Molina 2015 (20)	.	age, sex, and ethnicity
Moufarrej 2015 (22)	.	.
Putrik 2016 (26)	RDCI based on: ischaemic cardiovascular disease (myocardial infarction, stroke), cancer (colon, skin, lung, breast and uterus for women, prostate for men, and lymphoma), gastrointestinal diseases (diverticulitis, ulcers), infections (hepatitis), lung disease (chronic obstructive pulmonary disease and asthma) and psychiatric disorders (depression)	country, education, age and gender
Roodenrijs 2020 (27)	EULAR comorbidity domains and Charlson Comorbidity Index	.
Vlieland 1994 (28)	.	age, duration of symptoms, use of oral contraceptives, and variables representing disease severity at initial presentation (erosion score, HAQ score, number of swollen joints, Ritchie score at first visit)
Yang 2015 (37)	.	.
Yates 2021 (19)	40.2% >= 1 comorbidity	age; gender; ethnicity; comorbidity; SES; work status; smoking status; RF/CCP antibody status; referral route; time to referral; time to treatment; symptom duration; corticosteroid use; and baseline DMARD
Zou 2020 (29)	Charlson Comorbidity Index, mean 1.1	smoking, symptom duration, BMI, seropositivity, radiographic erosions and DMARD treatment

**Supplementary Table 3: Summary of comorbidities and co-variates, as detailed in included studies, where information is available.** BMI= body mass index; RF= rheumatoid factors; DMARD= disease modifying anti-rheumatic drug; HAQ= health assessment questionnaire; NSAID= non-steroidal anti-inflammatory drug; TNFi= TNF inhibitor; SES= socioeconomic status