Background: The treatment and prognosis of rheumatoid arthritis (RA) patients has improved tremendously, but patients across the world may not benefit similarly. One of the potentially critical factors may be poorer access to expensive biologic (b)DMARDs.

Objectives: To investigate daily practice data regarding bDMARD use in different countries worldwide and assess if a lower country’s socioeconomic status (SES) is associated with worse clinical outcomes and lower usage of bDMARDs.

Methods: Data on disease activity and drug use from countries that contributed >100 RA patients after 1–1–2000 were extracted from the daily practice, observational METEOR database. Missing data were imputed using multivariate normal imputation (30 cycles). Gross domestic product (GDP) per capita in international dollars (Int$I$) was used as indicator of SES. Per country average DAS28 and the proportion of patients in DAS28-remission (DAS28 <2.6) were calculated on the average of all patients at the last available visit. Univariable logistic regression analyses were performed to assess associations between GDP, bDMARD use and disease outcomes at a country level.

Results: In total, 20,379 patients were included from 12 countries: United States, Mexico, South-Africa, Japan, Brazil, United Kingdom, Spain, Ireland, Portugal, France, India and the Netherlands. The number of patients ever using a bDMARD varied between 0.9% (South-Africa) and 75% (Ireland). The proportion of patients in remission at the final visit varied between 2% (India) and 39% (Netherlands). Patients in countries with a higher GDP per capita had a lower average DAS28 and consequently, a higher proportion of them were in DAS28-remission: β (95% CI) -0.32 (-0.41; -0.21) lower DAS28 and an additional 4.2% (0.14; 8.26) of patients in DAS28-remission for every 10,000 Int$I$ additional GDP.

To underscore the assumption that the association between SES and DAS28 is due to the effect of bDMARD use, we assessed whether SES was associated with bDMARD use per country. Indeed, a higher GDP per capita was associated with a higher proportion of patients using a bDMARD: β (95% CI) 11.2 (4.82; 17.5), indicating an additional 11% of patients using a bDMARD per 10,000 Int$I$ increase in GDP per capita. Furthermore, DAS28 was β (95% CI) –0.14 (-0.28; –0.0054) lower and 2.8% (-0.13; 5.8) more patients achieved DAS28-remission per 10% increase in proportion of patients using a bDMARD, figure 1.

Conclusions: RA patients in countries with a lower SES had worse disease activity. Although patients in countries with a lower SES less often used bDMARDs, the effect of bDMARD use on disease activity was smaller than expected, indicating that other factors than access to bDMARDs may contribute to the effectiveness of RA treatment.

Disclosure of Interest: None declared