

Impact of Residential Area on the Profile of Rheumatoid Arthritis Patients Initiating their First Biologic DMARD: Results from the Ontario Best Practices Research Initiative (OBRI)

Raman Joshi, Mohammad Movahedi, Emmanouil Rampakakis, Angela Cesta, John S. Sampalis, Claire Bombardier and OBRI investigators

Objective(s)

Access to care and management of Rheumatoid Arthritis (RA) patients may differ based on residential area which, in turn, can affect the real-world effectiveness of anti-rheumatic medications. The aim of the current analysis is to describe differences in the profile of patients initiating their first biologic disease modifying antirheumatic drug (bDMARD) based on their residence in urban vs. rural areas.

Methods

RA patients enrolled in the OBR initiating their first bDMARD within 30 days prior to or following enrolment were included in the analysis. Parameters compared included patient sociodemographics (age, gender, race, education level, marital status, smoking status, annual household income, health insurance coverage), disease duration, disease severity parameters (Disease Activity Score (DAS), Simple Disease Activity Index, Clinical Disease Activity Index (CDAI), Swollen and Tender Joints (SJC28, TJC28), Medical Doctor Global Assessment (MDGA), Patient Global Assessment (PGA), Health Assessment Questionnaire – Disability Index (HAQ-DI), presence of erosion), bDMARD type, and concomitant anti-rheumatic medications including conventional synthetic disease modifying antirheumatic drug (csDMARDs), non-steroidal anti-inflammatory drugs (NSAIDs), and steroids.

Results

A total of 629 RA patients were included of whom 522 (83%) resided in urban areas and 107 (17%) in rural areas. Other than marital status (urban vs. rural: 64.6% vs. 82.2% married; $p < 0.001$) no significant differences in sociodemographics were observed between groups. However, patients from urban areas were less likely to have an erosion (55.7% vs. 62.8%; $p = 0.2$), had numerically lower TJC28 (7.2 vs. 7.9; $p = 0.43$), and numerically lower SJC28 (6.6 vs. 7.1; $p = 0.42$) at bDMARD initiation. Type of bDMARD (anti-TNF vs. other mechanism of action) was comparable between groups (87.9% on anti-TNF) as was concomitant treatment with csDMARDs (85.7% on csDMARDs), NSAIDs (19.7% on NSAIDs). The concomitant use of steroids was significantly lower in patients from urban areas (21.6% vs 30.1%; $p = 0.04$).

Conclusion

Important differences may exist between profile of RA patients residing in rural versus urban areas in initiating of their first bDMARD. The implications on treatment outcomes should be assessed.