Collection of Anti-Rheumatic Medication Data From Both Patients and Rheumatologists Shows Strong Agreement in a Real World Clinical Cohort: The Ontario Best Practices Research Initiative (OBRI) a Rheumatoid Arthritis Cohort

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Objectives: Collection of Anti-Rheumatic Medication (ARM) information from both patients and rheumatologists is considered a strength for Rheumatoid Arthritis (RA) registries and cohorts. However, it is important to assess the agreement between these two data sources. We aimed to examine the agreement of ARM reporting between patients and rheumatologists in the Ontario Best Practices Research Initiative (OBRI).

Methods: Adult Patients enrolled in the OBRI who consented to both patient interviews and rheumatologist evaluations were included. Patients in the OBRI are interviewed every six months, while rheumatologist assessments are conducted as per routine care. For this analysis, we compared reports where rheumatologist visits and interviews occurred within 60 days of each other. ARM included conventional synthetic Disease-Modifying Antirheumatic Drugs (csDMARDs) and biologic DMARDs (bDMARDs). Sensitivity and Positive Predictive Value (PPV) of rheumatologist reports were calculated using the patient's report as gold standard. Kappa statistics of agreement between the two data sources were calculated. To examine factors associated with agreement, logistic regression was used to model the odds of agreement.

Results: 2,862 patients (78.1% female) were included with a mean (SD) age at OBRI enrolment of 57.5 (12.8) year. Mean (SD) disease parameters were: DAS28: 4.3 (1.6); SJC: 5.5 (4.9); TJC: 6.0 (6.2); physician global: 4.2 (2.5); patient global: 4.8 (2.8), and HAQ disability Index: 1.2 (0.8). The prevalence of csDMARDs and bDMARDs was 69.6% and 19.5% in patient reports, respectively, whereas in rheumatologist reports, the prevalence was 73.3% and 20.6%, respectively. The sensitivity of rheumatologist reports was 96.4% for csDMARDs and 93.7% for bDMARDs.

Overall agreement for ARM reports between the two data sources was interpreted as good (Kappa: 0.72; 95%CI: 0.71-0.73, p=0.01). In a multivariate logistic regression, higher DAS28 was significantly associated with the lower agreement (OR: 0.91; 95%CI: 0.87-0.96, p=0.0002). By contrast, older age (OR: 1.01; 95%CI: 1.01-1.02, p<0.0001), higher annual household income (>50,000 vs ≤ 50,000 CD) (OR: 1.41; 95%CI: 1.27-1.57, p<0.0001), female rheumatologist (OR: 1.16; 95%CI: 1.05-1.29, p=0.01) and academic rheumatologist (OR: 1.30; 95%CI: 1.17-1.44, p<0.0001) were significantly associated with higher agreement between the data sources.

Conclusion: The results of this analysis suggest that ARM reports from the two data sources have strong agreement in the OBRI. This agreement is even better for patients who are older, have higher income

and are being treated by a female, academic rheumatologist. Further analysis is proposed to assess agreement between patient and rheumatologist reported ARM start and stop dates.