

## **Characterization of Patient Reported Pain Medication in Rheumatoid Arthritis Patients – Results from the Ontario Best Practices Research Initiative (OBRI)**

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**Objectives:** Optimal pain control is a cornerstone in the management of rheumatic diseases. Rheumatic pain is intricate and can involve inflammatory and non-inflammatory pathways. From the Ontario Best Practices Research Initiative, a clinical registry of rheumatoid arthritis (RA) patients, our goal was to characterize the use of pain medications according to the Anatomical Therapeutic Chemical (ATC) classification system (the World Health Organization classification of medicinal ingredients) and to characterize patient-reported pain disorders.

**Methods:** From the patient-reported OBRI cohort (N = 2,266), patients who received at least one pain medication during the study (N = 1,816) were selected. Patient-reported pain medications were categorized according to ATC classes and the numbers of events in each ATC category were identified. If a patient reported taking more than one pain medication within the same drug class it was counted as one event. Patients were also categorized based on self-reported pain disorders, and common medication classes used per category were reported.

**Results:** From our studied cohort (N=1,816), the mean age was 57.6 years, the mean disease duration was 8.98 years and 78.9% were female. A total of 3,445 events were reported, across all medication classes. The largest medication classes included NSAIDs (40.8%, N = 1405), opioid analgesics (15.9%, N = 548) and non-opioid analgesics (15.5%, N = 533). The use of antidepressants (14.3%, N = 494), benzodiazepines (8.04%, N = 277) and anti-epileptics (5.57%, N = 192) were also observed. Patients did not specify any indication for 48.5% (N=1670) of these pain medications. From the specified indications (N = 1,775), 6 most prevalent pain disorders reported were identified – generalized pain (28.0%, N = 497), joint pain (12.1%, N = 214), migraines (4.68%, N=83), fibromyalgia (3.83%, N=68), back pain (3.77%, N = 67) and neuropathic pain (3.10%, N = 55). Opioid and non-opioid analgesics were highly utilized amongst these groups (56.8%) followed by NSAIDs (33.8%).

**Conclusion:** Our study shows that in addition to inflammatory pain, many RA patients also suffer from neuropathic pain, fibromyalgia and migraines. Pain management in RA is complex and requires a multimodal approach. Concurrent use of antidepressants, benzodiazepines and anti-epileptics with traditional NSAIDs and analgesics is often required for optimal pain management. High utilization of these non-traditional therapies may indicate an association between pain and other comorbidities such as depression, anxiety and sleep disorders. Future work is required to identify these associations.