

# Sociodemographic, Disease, and Medication Profile of RA Patients under 65 years Compared with 65 Years or Older at Registry Enrollment: Results From The Ontario Best Practices Research Initiative (OBRI)

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BACKGROUND

- Age is an important factor that can affect disease course, physical function and treat to target strategy for patients with rheumatoid arthritis (RA)

OBJECTIVES

- To describe sociodemographic, disease and medication profile of patients with RA by their assigned age group at time of their enrollment in the Ontario Best Practices Research Initiative (OBRI); a clinical registry (OBRI-RA registry) ([www.obri.ca](http://www.obri.ca))

METHODS

- Patients enrolled in the OBRI between 1<sup>st</sup> January 2008 - 1<sup>st</sup> January 2020
- Patients were allocated into two age groups:
  - Under 65 years
  - 65 years or older
- Patients in two age group were compared for:
  - Sociodemographic characteristics (gender, ethnicity, spoken language, education, health insurance, and smoking status)
  - Disease activity [28 tender and swollen joint count (28SJC and 28TJC), physician global assessment (PhGA), clinical disease activity index (CDAI)]
  - Patient report outcomes (PROs) including patient global assessment (PtGA), fatigue score, global pain, and Health assessment questionnaire – Disability index (HAQ-DI)
  - Comorbidity profile including Hypertension, Cardiovascular disease, Diabetes Mellitus, and Depression
  - Antirheumatic medication profile [prior use of conventional synthetic disease modifying antirheumatic drugs (csDMARDs), prior use of biologic (b)DMARDs, using new bDMARDs or csDMARDs, and Steroids]

- Statistical analysis:
  - Descriptive cross sectional analysis was used to analysis the data.
  - We calculated the standardized difference as the difference in means or proportions divided by the standard error.
  - A significant difference between the two groups was defined as an absolute value ≥ 0.10.

RESULTS

**OBRI Investigators:** Drs. Ahluwalia, V., Ahmad, Z., Akhavan, P., Albert, L., Alderdice, C., Aubrey, M., Aydin, S., Bajaj, S., Bell, M., Bensen, W., Bhavsar, S., Bobba, R., Bombardier, C., Bookman, A., Brophy, J., Cabral, A., Carrette, S., Carmona, R., Chow, A., Choy, G., Ciaschini, P., Cividino, A., Cohen, D., Dixit, S., Faraawi, R., Haaland, D., Hanna, B., Haroon, N., Hochman, J., Jaroszynska, A., Johnson, S., Joshi, R., Kagal, A., Karasik, A., Karsh, J., Keystone, E., Khalidi, N., Kuriya, B., Lake, S., Larche, M., Lau, A., LeRiche, N., Leung, Fe., Leung, Fr., Mahendira, D., Matsos, M., McDonald-Blumer, H., McKeown, E., Midzic, I., Milman, N., Mittoo, S., Mody, A., Montgomery, A., Mulgund, M., Ng, E., Papneja, T., Pavlova, P., Perlin, L., Pope, J., Purvis, J., Rai, R., Rohekar, G., Rohekar, S., Ruban, T., Samadi, N., Sandhu, S., Shaikh, S., Shickh, A., Shupak, R., Smith, D., Soucy, E., Stein, J., Thompson, A., Thorne, C., Wilkinson, S.

Table 1. Sociodemographic profile by age group

	Total (N=3734)	<65 years (N=2562)	≥ 65 years (N=1172)	Standard difference	P Value
Gender, Female (%)	2902 (77.7)	2041 (79.7)	861 (73.5)	<b>0.15</b>	<b>&lt;.001</b>
Age (years), Mean ± SD	57.9 ± 13.2	51.3 ± 10.0	72.4 ± 5.5	<b>2.6</b>	<b>&lt;.001</b>
Ethnicity, Non-Caucasian (%)	416 (11.1)	337 (13.2)	79 (6.7)	<b>0.22</b>	<b>&lt;.001</b>
Spoken language, English (%)	3222 (86.3)	2202 (85.9)	1020 (87.0)	<b>0.10</b>	<b>0.007</b>
Education, Post-secondary (%)	2020 (54.1)	1531 (59.8)	489 (41.7)	<b>0.40</b>	<b>&lt;.001</b>
Health insurance coverage Public (OHIP) + private or ODB (%)	3044 (81.5)	1944 (75.9)	1100 (93.9)	<b>0.72</b>	<b>&lt;.001</b>
Smoking , current (%)	563 (15.1)	461 (18.0)	102 (8.7)	<b>0.30</b>	<b>&lt;.001</b>

OHIP: Ontario Health Insurance Plan; ODB: Ontario Drug Benefit

Table 2. Disease activity profile by age group

	Total (N=3734)	<65 years (N=2562)	≥ 65 years (N=1172)	Standard difference	P Value
Disease duration (years)	N=3730	N=2558	N= 1172		
Mean ± SD	8.2 ± 9.8	7.3 ± 8.6	10.2 ± 11.8	<b>0.3</b>	<b>&lt;.001</b>
RF	N=3460	N=2375	N=1085		
Positive RF	2504 (72.4)	1748 (73.6)	756 (69.7)	<i>0.08</i>	<i>0.017</i>
ACPA	N=1591	N=1146	N=445		
Positive ACPA	978 (61.5)	722 (63.0)	256 (57.5)	<b>0.11</b>	<b>0.044</b>
PhGA	N=3065	N=2092	N=973		
Mean ± SD	4.2 ± 2.5	4.3 ± 2.5	4.1 ± 2.4	<i>0.09</i>	<i>0.025</i>
28SJC	N=3648	N=2505	N=1143		
Mean ± SD	5.4 ± 4.9	5.3 ± 4.9	5.5 ± 4.9	<i>0.04</i>	<i>0.231</i>
28TJC	N=3579	N=2458	N=1121		
Mean ± SD	5.9 ± 6.2	6.0 ± 6.3	5.6 ± 5.9	<i>0.07</i>	<i>0.069</i>
CDAI	N=3260	N=2242	N=1018		
Mean ± SD	20.4 ± 13.6	20.7 ± 13.8	19.7 ± 13.2	<i>0.07</i>	<i>0.074</i>

RF: Rheumatoid factor; ACPA: anti-citrullinated protein antibodies; SJC: Swollen Joint Count; TJC: Tender Joint Count; PhGA: Physician Global Assessment; CDAI: Clinical Disease Activity Index

Table 3. Patient report outcomes by age group

	Total (N=3734)	<65 years (N=2562)	>= 65 years (N=1172)	Standard difference	P Value
HAQ-DI					
N	3545	2447	1098		
Mean ± SD	1.2 ± 0.8	1.1 ± 0.8	1.2 ± 0.8	<b>0.15</b>	<b>&lt;.001</b>
HAQ-Pain					
N	3544	2447	1097		
Mean ± SD	1.4 ± 0.9	1.5 ± 0.9	1.3 ± 0.9	<b>0.16</b>	<b>&lt;.001</b>
PtGA					
N	3264	2237	1027		
Mean ± SD	4.7 ± 2.8	4.8 ± 2.8	4.5 ± 2.7	<b>0.13</b>	<b>&lt;.001</b>
Patient pain feeling during past week					
N	3544	2447	1097		
Mean ± SD	4.7 ± 2.9	4.8 ± 2.9	4.4 ± 2.8	<b>0.16</b>	<b>&lt;.001</b>
Fatigue					
N	3547	2448	1099		
Mean ± SD	4.9 ± 3.1	5.0 ± 3.1	4.6 ± 3.1	<b>0.15</b>	<b>&lt;.001</b>

HAQ-DI: Health assessment questionnaire –Disability index; PtGA: patient global assessment

Table 4. Comorbidity profile by age group

	Total (N=3734)	<65 years (N=2562)	≥ 65 years (N=1172)	Standard difference	P Value
Hypertension	1274 (34.1)	617 (24.1)	657 (56.1)	<b>0.69</b>	<b>&lt;.001</b>
Cardiovascular disease	418 (11.2)	162 (6.3)	256 (21.8)	<b>0.46</b>	<b>&lt;.001</b>
Diabetes Mellitus	322 (8.6)	184 (7.2)	138 (11.8)	<b>0.16</b>	<b>&lt;.001</b>
Lung disease	498 (13.3)	286 (11.2)	212 (18.1)	<b>0.19</b>	<b>&lt;.001</b>
Gastrointestinal disease	626 (16.8)	383 (14.9)	243 (20.7)	<b>0.15</b>	<b>&lt;.001</b>
Cancer disease	277 (7.4)	128 (5.0)	149 (12.7)	<b>0.27</b>	<b>&lt;.001</b>
Depression disease	611 (16.4)	455 (17.8)	156 (13.3)	<b>0.12</b>	<b>&lt;.001</b>

Table 5. Antirheumatic medication profile by age group

	Total (N=3734)	<65 years (N=2562)	≥ 65 years (N=1172)	Standard difference	P Value
Prior use of csDMARDs	3067 (82.1)	2099 (81.9)	968 (82.6)	<i>0.03</i>	<i>0.371</i>
Prior use of bDMARDs	1111 (29.8)	805 (31.4)	306 (26.1)	<b>0.12</b>	<b>&lt;.001</b>
Starting a new csDMARDs	1407 (37.7)	990 (38.6)	417 (35.6)	<i>0.02</i>	<i>0.529</i>
Starting a new bDMARD	587 (15.7)	437 (17.1)	150 (12.8)	<b>0.12</b>	<b>0.005</b>
Use of Methotrexate	2454 (65.7)	1716 (67.0)	738 (63.0)	<i>0.08</i>	<i>0.017</i>
Use of NSAIDs	817 (21.9)	612 (23.9)	205 (17.5)	<b>0.16</b>	<b>&lt;.001</b>
Use of steroids	736 (19.7)	458 (17.9)	278 (23.7)	<b>0.14</b>	<b>&lt;.001</b>

bDMARDs: biologic disease modifying antirheumatic drugs; csDMARDs: conventional synthetic disease modifying antirheumatic drugs.

CONCLUSIONS

- In this real world data descriptive study, we found that disease activity measures were similar in patients uder 65 years compared to those 65 years or older.

- Sociodemographics, PROs , comorbidities, and medication profiles were different between two groups.

- These differences should be taken into account for any clinical decision toward outcome improvement in patients.

**Funding:** OBRI was funded by peer reviewed grants from CIHR (Canadian Institute for Health Research), Ontario Ministry of Health and Long-Term Care (MOHLTC), Canadian Arthritis Network (CAN) and unrestricted grants from: Abbvie, Amgen, Janssen, Medexus, Merck, Novartis, and Pfizer.

Acknowledgment: Dr. Bombardier held a Canada Research Chair in Knowledge Transfer for Musculoskeletal Care and a Pfizer Research Chair in Rheumatology

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