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)

METHODS

- Patients enrolled in the OBRI between 1st January 2008 - 1st January 2020
- Patients were allocated into two age groups:
  - Under 65 years
  - 65 years or older

- Patients in two age group were compared for:

  1. Sociodemographic characteristics (gender, ethnicity, spoken language, education, health insurance, and smoking status)
  2. Disease activity [28 tender and swollen joint count (28SJC and 28TJC), physician global assessment (PhGA), clinical disease activity index (CDAI)]
  3. Patient report outcomes (PROs) including patient global assessment (PtGA), fatigue score, global pain, and Health assessment questionnaire – Disability index (HAQ-DI)
  4. Comorbidity profile including Hypertension, Cardiovascular disease, Diabetes Mellitus, and Depression
  5. 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 standarized 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

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)	0.15	<.001
Age (years), Mean ± SD	57.9 ± 13.2	51.3 ± 10.0	72.4 ± 5.5	2.6	<.001
Ethnicity, Non-Caucasian (%)	416 (11.1)	337 (13.2)	79 (6.7)	0.22	<.001
Spoken language, English (%)	3222 (86.3)	2202 (85.9)	1020 (87.0)	0.10	0.007
Education, Post-secondary (%)	2020 (54.1)	1531 (59.8)	489 (41.7)	0.40	<.001
Health insurance coverage Public (OHIP) + private or ODB (%)	3044 (81.5)	1944 (75.9)	1100 (93.9)	0.72	<.001
Smoking , current (%)	563 (15.1)	461 (18.0)	102 (8.7)	0.30	<.001

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	0.3	<.001
RF	N=3460	N=2375	N=1085		
Positive RF	2504 (72.4)	1748 (73.6)	756 (69.7)	0.08	0.017
ACPA	N=1591	N=1146	N=445		
Positive ACPA	978 (61.5)	722 (63.0)	256 (57.5)	0.11	0.044
PhGA	N=3065	N=2092	N=973		
Mean ± SD	4.2 ± 2.5	4.3 ± 2.5	4.1 ± 2.4	0.09	0.025
28SJC	N=3648	N=2505	N=1143		
Mean ± SD	5.4 ± 4.9	5.3 ± 4.9	5.5 ± 4.9	0.04	0.231
28TJC	N=3579	N=2458	N=1121		
Mean ± SD	5.9 ± 6.2	6.0 ± 6.3	5.6 ± 5.9	0.07	0.069
CDAI	N=3260	N=2242	N=1018		
Mean ± SD	20.4 ± 13.6	20.7 ± 13.8	19.7 ± 13.2	0.07	0.074

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	0.15	<.001
HAQ-Pain					
N	3544	2447	1097		
Mean ± SD	1.4 ± 0.9	1.5 ± 0.9	1.3 ± 0.9	0.16	<.001
PtGA					
N	3264	2237	1027		
Mean ± SD	4.7 ± 2.8	4.8 ± 2.8	4.5 ± 2.7	0.13	<.001
Patient pain feeling during past week					
N	3544	2447	1097		
Mean ± SD	4.7 ± 2.9	4.8 ± 2.9	4.4 ± 2.8	0.16	<.001
Fatigue					
N	3547	2448	1099		
Mean ± SD	4.9 ± 3.1	5.0 ± 3.1	4.6 ± 3.1	0.15	<.001

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)	0.69	<.001
Cardiovascular disease	418 (11.2)	162 (6.3)	256 (21.8)	0.46	<.001
Diabetes Mellitus	322 (8.6)	184 (7.2)	138 (11.8)	0.16	<.001
Lung disease	498 (13.3)	286 (11.2)	212 (18.1)	0.19	<.001
Gastrointestinal disease	626 (16.8)	383 (14.9)	243 (20.7)	0.15	<.001
Cancer disease	277 (7.4)	128 (5.0)	149 (12.7)	0.27	<.001
Depression disease	611 (16.4)	455 (17.8)	156 (13.3)	0.12	<.001

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)	0.03	0.371
Prior use of bDMARDs	1111 (29.8)	805 (31.4)	306 (26.1)	0.12	<.001
Starting a new csDMARDs	1407 (37.7)	990 (38.6)	417 (35.6)	0.02	0.529
Starting a new bDMARD	587 (15.7)	437 (17.1)	150 (12.8)	0.12	0.005
Use of Methotrexate	2454 (65.7)	1716 (67.0)	738 (63.0)	0.08	0.017
Use of NSAIDs	817 (21.9)	612 (23.9)	205 (17.5)	0.16	<.001
Use of steroids	736 (19.7)	458 (17.9)	278 (23.7)	0.14	<.001

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.