NATIONWIDE PREVALENCE OF RA AND PENETRATION OF DMARDs IN SWEDEN

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Ann Rheum Dis, 2010
Objective

To provide nationwide data on the prevalence of RA (including variations by age, sex, geography, demography and education level) and assess anti-rheumatic treatment penetration.
Methods

• **Patient Identification**
  - Swedish Rheumatology Quality Register
  - National Patient Register (inpatient & specialist outpatient care)

• **Treatment Exposure**
  - Prescribed Drug Register
  - Swedish Biologics Register ARTIS
Patient Identification

National Patient Register (NPR, 1964-2007; n=57,400)
  Outpatient: n=48,644
  Inpatient: n=32,777

Swedish Rheumatology Quality Register (SRQ, 1995-2007; n=18,201)

Prescribed Drug Register (PDR, 2005-2007; n=6,103)
  PDR & SRQ: n=5,801
  PDR & NPR: n=5,947

ARTIS (1999-2007; n=8,155)
  ARTIS & SRQ: n=8,155
  ARTIS & PDR: n=5,750
  ARTIS & NPR: n=7,965

SRQ & NPR: n=17,499

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RESULTS
Prevalence of RA by Sex & Age
Jan 1, 2008 (n=58,102)

Cases defined as ever having a visit in inpatient or outpatient specialist care with a diagnosis of rheumatoid arthritis, or a listing in the Swedish Rheumatology Quality Register.
Using Different Case Definitions

- Base Case + (Biologic OR Non-Biologic DMARDs): 0.49%
- Base Case + Biologic DMARDs: 0.11%
- Base Case + (DMARDs OR Glucocorticoids): 0.59%
- ≥2 visits with RA Diagnosis: 0.59%
- RA Diagnosis from Rheumatology/Internal Medicine Dept: 0.62%
- ≥2 visits with RA OR Rheumatology/Internal Medicine Dept RA Diagnosis: 0.68%
- DMARDs OR Glucocorticoids OR ≥2 visits with RA OR Rheumatology/Internal Medicine Dept RA Diagnosis: 0.72%
- Base Case: 0.77%

Prevalence of Rheumatoid Arthritis (using different case definitions)
Using Different Case Definitions
By Sex

Base Case
- Women: 0.43%
- Men: 1.11%

DMARDs OR Glucocorticoids OR ≥2 visits with RA OR Rheumatology/Internal Medicine Dept RA Diagnosis
- Women: 0.42%
- Men: 1.07%

≥2 visits with RA OR Rheumatology/Internal Medicine Dept RA Diagnosis
- Women: 0.38%
- Men: 0.97%

RA Diagnosis from Rheumatology/Internal Medicine Dept
- Women: 0.35%
- Men: 0.88%

≥2 visits with RA Diagnosis
- Women: 0.32%
- Men: 0.85%

Base Case + (DMARDs OR Glucocorticoids)
- Women: 0.33%
- Men: 0.85%

Base Case + (Biologic OR Non-Biologic DMARDs)
- Women: 0.28%
- Men: 0.70%

Base Case + Biologic DMARDs
- Women: 0.17%
- Men: 0.05%

Prevalence of Rheumatoid Arthritis (using different case definitions)
Prevalence by Place of Residence

- Sparsely Populated Areas: 1.00%
- Other Areas (<12,500 inh.): 0.91%
- Other Areas (12,500-25,000 inh.): 0.90%
- Other Areas (>25,000 inh.): 0.88%
- Industrial Areas: 0.84%
- Commuting Areas: 0.82%
- Suburban Areas: 0.73%
- Larger Cities: 0.73%
- Main Cities: 0.65%

Prevalence of Rheumatoid Arthritis
Prevalence by Place of Residence

- Sparsely Populated Areas: 0.86%
- Other Areas (<12,500 inh.): 0.78%
- Other Areas (12,500-25,000 inh.): 0.80%
- Other Areas (>25,000 inh.): 0.81%
- Industrial Areas: 0.78%
- Commuting Areas: 0.80%
- Suburban Areas: 0.78%
- Larger Cities: 0.75%
- Main Cities: 0.73%
Prevalence by County
(n=58,102)

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No population statistics on education level for persons ≥75y
16-29y old persons excluded as many may not have completed their education

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Comparison of prevalence estimates in the current study (Sweden 2008) with a previous Swedish study by Simonsson et al (Sweden 1995)[3], a Norwegian study by Kvien et al (Norway 1994)[2], and an American study by Gabriel et al (Rochester 1985)[7] after applying the age-cutoffs used in the respective studies.

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PENETRATION OF BIOLOGIC AND NON-BIOLOGIC DMARDs
Biologics Penetration by Age

Definition of RA
- Any RA Visit

- Overall: 15%
- 16-59y: 24%
- 60-69y: 18%
- 70-79y: 10%
- ≥80y: 3%

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Biologics Penetration by Age

Definition of RA
- Any RA Visit
- ≥2 RA Visits

Overall: 15% (Any RA Visit), 18% (≥2 RA Visits)
16-59y: 18% (Any RA Visit), 27% (≥2 RA Visits)
60-69y: 18% (Any RA Visit), 22% (≥2 RA Visits)
70-79y: 12% (Any RA Visit), 10% (≥2 RA Visits)
≥80y: 5% (Any RA Visit), 3% (≥2 RA Visits)

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DMARD Penetration by Age

Non-Biologic

Definition of RA

Any RA Visit

<table>
<thead>
<tr>
<th>Age</th>
<th>Penetration</th>
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<tbody>
<tr>
<td>Overall</td>
<td>62%</td>
</tr>
<tr>
<td>16-59y</td>
<td>68%</td>
</tr>
<tr>
<td>60-69y</td>
<td>68%</td>
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<tr>
<td>70-79y</td>
<td>61%</td>
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<tr>
<td>≥80y</td>
<td>42%</td>
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</tbody>
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DMARD Penetration by Age
Non-Biologic

Definition of RA
- Any RA Visit
- ≥2 RA Visits

Neovius, Simard & Askling for the ARTIS Study Group, ARD 2010
References

1. Neovius M, Simard J, Askling J for the ARTIS Study Group
   Nationwide Prevalence of Rheumatoid Arthritis and Penetration of Disease-Modifying Drugs in Sweden
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   Generalisability of Clinical Registers used for Drug Safety and Comparative Effectiveness Research: Coverage of the Swedish Biologics Register
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   Ten years with biologics: For whom do data on effectiveness and long-term safety apply?
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