Impact of opioid initiation on antipsychotic and benzodiazepine and related drug (BZDR) use among persons with Alzheimer’s disease—an interrupted time series analysis

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No conflicts of interest to report
Neuropsychiatric symptoms in AD are common – so is symptomatic pharmacotherapy.
Does treating pain decrease neuropsychiatric symptoms?

• Yeah, maybe
  – Mixed, but overall positive results

Husebo et al. BMJ. 2011 Jul 15;343:d4065
Does opioid initiation impact the use of antipsychotics and BZDRs?
70,718 community-dwelling persons with AD (2005-2011)

MATCHED COHORT OF NON-INITIATORS

MEDICATION USE & ALZHEIMER’S DISEASE

OPIOID INITIATORS IN 2010-2011

NATIONWIDE PRESCRIPTION REGISTER
HOSPITAL DISCHARGE REGISTER

Tolppanen et al BMJ Open. 2016 Jul 13;6(7):e012100
Nationwide Prescription Register

- No over-the-counter (OTC) medicines
- Only Reimbursed medicines

Hospital Discharge Register

- No medicines during hospitalization
Methods

OUTCOME (DRUG USE PREVALENCE)

-180 -150 -120 -90 -60 -30 0 30 60 90 120 150 180

TIME

Pre-intervention trend

Change in level

Post-intervention trend

Opioid initiation
Results - Study population

• 3,327 opioid initiators
• 3,325 non-initiators

• Mean age 82.2 (SD 6.9 years)
• 68% were women

• All studied comorbidities were more common among opioid initiators
  – Eg. prevalence of cancer 8.5% vs. 4.9%
Antipsychotics

Prevalence (%)

Days

Opioid initiators
Non-initiators
Discussion and conclusions

• Antipsychotic and BZDR use was frequent.

• Opioid initiation resulted in an initial surge – and an overall decrease.

• Decrease in neuropsychiatric symptoms or intentional reduction of sedative load?

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<table>
<thead>
<tr>
<th>Condition</th>
<th>Opioid initiators</th>
<th>Opioid non-initiators</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, mean (years)</td>
<td>82.2 (N)</td>
<td>82.2 (N)</td>
<td>Matched</td>
</tr>
<tr>
<td>Women</td>
<td>68.3 (2,273)</td>
<td>68.3 (2,271)</td>
<td>Matched</td>
</tr>
<tr>
<td>Diabetes</td>
<td>17.3 (570)</td>
<td>14.0 (465)</td>
<td>0.0004</td>
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<tr>
<td>Rheumatoid arthritis</td>
<td>5.8 (191)</td>
<td>3.8 (126)</td>
<td>0.0002</td>
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<tr>
<td>History of hip fracture</td>
<td>9.8 (327)</td>
<td>6.2 (205)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Active cancer treatment in the last year</td>
<td>8.5 (283)</td>
<td>4.9 (162)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>NSAID use</td>
<td>16.4 (547)</td>
<td>3.6 (120)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Paracetamol use</td>
<td>58.9 (1,959)</td>
<td>21.5 (714)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Bisphosphonate use</td>
<td>9.9 (330)</td>
<td>5.1 (169)</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

Table 1. Description of the study population. NSAID = non-steroidal anti-inflammatory drugs.