Change in psychototropic drug use in Norwegian nursing homes between 2004 and 2011

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CONFLICT OF INTEREST DISCLOSURE

I have no potential conflict of interest to report.
Change in psychotropic drug use in Norwegian nursing homes between 2004 and 2011

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Background

• Since 2004 warnings by (inter) national drug agencies

• 52%-75% of NH patients with dementia use at least one type of PDs

• One previous Norwegian study (Ruths, 2013)
  – secondary data analysis of 6 cross-sectional studies, 1997 -2009
Research question

• Has there been a change in the use of psychotropic drugs in Norwegian nursing homes between 2004 and 2011?
• Did the predictors of use of specific psychotropic drug groups change?
Method

Cross-sectional observational study of two Norwegian nursing home samples

Participants
• **2004**: 26 nursing homes from 18 municipalities (N=1163)
• **2011**: 64 nursing homes from 55 municipalities (N=1858)

Measures
• Clinical Dementia Rating Scale (**CDR**)
• Neuropsychiatric Inventory (**NPI**)
• Physical Self-Maintenance scale (**PSMS**)
• Psychotropic drugs: **antipsychotics**, **antidepressants**, **anxiolytics**, **sedatives**, **anti-dementia drugs**
Data analysis

• For each outcome, a multivariate model containing fixed effects for dummy identifying two samples, 6 predictors (apathy, agitation, psychosis, affective sub-syndrome, CDR, PSMS) and interaction terms between the dummy and each predictor was fitted.

• Akaike’s Information Criterion was applied to reduce the multivariate models.

• The reduced multivariate models were adjusted for confounders.
Logistic regression model for hierarchical data with random effects for nursing home

<table>
<thead>
<tr>
<th>Drugs used</th>
<th>S1 (%)</th>
<th>S2 (%)</th>
<th>OR/RR (95% CI)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antipsychotics</td>
<td>24</td>
<td>17</td>
<td>0.63 (0.49;0.82)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>38</td>
<td>36</td>
<td>0.94 (0.76;1.17)</td>
<td>0.582</td>
</tr>
<tr>
<td>Anxiolytics</td>
<td>24</td>
<td>22</td>
<td>0.93 (0.69;1.25)</td>
<td>0.645</td>
</tr>
<tr>
<td>Sedatives</td>
<td>29</td>
<td>30</td>
<td>1.06 (0.81;1.36)</td>
<td>0.707</td>
</tr>
<tr>
<td>Anti-dementia drugs</td>
<td>11</td>
<td>15</td>
<td>1.24 (0.84;1.82)</td>
<td>0.281</td>
</tr>
<tr>
<td>Psychotropic drugs</td>
<td>27</td>
<td>31</td>
<td>0.97 (0.86;1.08)</td>
<td>0.547</td>
</tr>
</tbody>
</table>
Multivariate models reduced by AIC (adjusted for confounders)

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Antipsychotics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR (95% CI)</td>
</tr>
<tr>
<td>Time 2004 – Ref 2011</td>
<td>1</td>
</tr>
<tr>
<td>Apathy</td>
<td>0.66 (0.50; 0.88)*</td>
</tr>
<tr>
<td>Agitation</td>
<td>1.01 (0.98; 1.04)</td>
</tr>
<tr>
<td>Psychosis</td>
<td>1.00 (0.99; 1.02)</td>
</tr>
<tr>
<td>Affective CDR</td>
<td>1.06 (1.04; 1.08)**</td>
</tr>
<tr>
<td>Affective PSMS</td>
<td>1.04 (1.02; 1.06)**</td>
</tr>
<tr>
<td>Interactions</td>
<td>Coefficient (SE)</td>
</tr>
<tr>
<td>Code x Apathy</td>
<td>-0.043 (0.020)*</td>
</tr>
<tr>
<td>Predictors</td>
<td>Anti-depressants OR (95% CI)</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Time</td>
<td></td>
</tr>
<tr>
<td>2004 – ref 2011</td>
<td>1 (0.95; 1.18)</td>
</tr>
<tr>
<td>Apathy</td>
<td>1.02 (0.99; 1.04)</td>
</tr>
<tr>
<td>Agitation</td>
<td>0.99 (0.98; 1.01)</td>
</tr>
<tr>
<td>Psychosis</td>
<td>0.99 (0.97; 1.01)</td>
</tr>
<tr>
<td>Affective</td>
<td>1.09 (1.07; 1.11)**</td>
</tr>
<tr>
<td>CDR</td>
<td>0.99 (0.98; 1.02)</td>
</tr>
<tr>
<td>PSMS</td>
<td>0.98 (0.97; 1.00)</td>
</tr>
</tbody>
</table>
• Treatment recommendations against use of antipsychotic drugs
• Previous studies reported that the reduction of antipsychotic drug use might have been counterbalanced.
• No information about the use of non-pharmacological treatments

+ Studies adjusted for disease severity and neuropsychiatric symptoms
+ Wide variety of nursing homes from different regions and municipalities
- Higher proportion of withdrawals of residents in 2010/2011
• Decrease in the prescription of antipsychotic drugs and no increase of any other psychotropic drug.

• The widespread use of psychotropic medications highlights the importance of first trialing non-pharmacological treatment approaches.