Towards a more effective and efficient use of psychotropic drugs in nursing homes: a quality improving project in Belgium

Mirko Petrovic
Department of Geriatrics
Ghent University
CONFLICT OF INTEREST DISCLOSURE

I have no potential conflict of interest to disclose
Prescribing in Homes for the Elderly in BElgium

- A trend for increased medication use in older people > 80
- Multiple comorbidities resulting in increased risk for polypharmacy
- Prescribing in Homes for the Elderly in BElgium (PHEBE, 2006)
  - Cross-sectional study
  - Randomised, representative sample
  - 76 nursing homes
  - Medication + clinical data retrieved from the GPs of 1730 residents
  - Consume an average of 7 chronic medications

Azermai, Elseviers M, Petrovic M et al. 
Prescribing in Homes for the Elderly in Belgium

KCE reports 47 A (D/2006/10.273/61)
Prescribing in Homes for the Elderly in Belgium: Psychotropic drugs

The prevalence is exceedingly high (79%) with frequent use of more than one medication

Assessment of antipsychotic prescribing in nursing homes in Belgium

- Inappropriate prescribing:
  - long-term use (92.6%),
  - use despite the risk of falls (45.6%),
  - combined use with other psychotropics (31.8%),
  - duplicate use (15.1%).

Azermai M et al. *Int Psychogeriatr* 2011; 23: 1240-1248
How the project started …

2013-2015
‘Project Psychotropic drugs’
• Targeted at 1 NH, i.e. Leiehome
• Educational sessions offered to all employees at the start
• Discontinuation of psychotropics
  – From 72% to 48% use!
• Comparative study with another NH
  – Importance of project promoters for success!
• Meaningful activities

2016-2017
‘Together on the way to less’
• Targeted at 5 pilot NHs
• Roadmap with phase progression
  – All ‘success elements’ of Leiehome were bundled
    • Preparation phase
    • Information phase
    • Realisation phase
    • Evaluation phase
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- Efficient use
- Raising of awareness of involved parties
- Reducing costs
- Non-pharmacological approach
- Change of policy
- Dissemination of scientific information
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Generally

- Look before you leap.
- Why that pill?
- Each treatment has its length.
- Together stronger!

Pain?
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Depression

- Sorrow is not depression.
- History of major depression?
- Start low, go slow!
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Challenging behaviour

- Watchful waiting
- Handle a problem, but not only with pills
- Write down what you see, not what you think or feel!
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Sleep- & anxiety problems

- Sleep hygiene and exercise
- Anxiety has many causes
- Avoid BZD³
Methods

• A pilot project (2013-2014) with a pre-post design in 2 nursing homes
• The intervention group received three educational sessions given by experts on psychotropic drugs, in addition to one-on-one professional support provided by 2 project staff members (0.4 FTE)
• The control group received education-only without professional support afterwards
• Drug use was recorded and coded according to the Anatomical Therapeutic and Chemical classification
• Psychotropics included: antipsychotics, benzodiazepines and antidepressants
• Measurements were done at 3 time-points: at baseline (pre), after 10 months (post) and after 1 year (follow-up)

Results

• Mean age of the residents (n=119) was 81 (range 56-96)
• 71% were females
• Dementia was the main clinical diagnosis (35%)
• Residents had a high physical dependency with a mean ADL score of 17/24
• Mean medication use at baseline was 9 (range 1-21)
Psychotropic drug use intervention group (n=119)

Prevalence PRE 72.3%
Prevalence POST 60.5%

Distribution of psychotropics

Pre
- 32.80%
- 21.80%
- 13.40%
- 1.70%
- 1.70%
- 0.80%

Distribution of psychotropics

Post
- 30.50%
- 18.60%
- 8.50%
- 1.70%
- 0.80%
Pre, Post and 1 year later

- Benzodiazepines
- Antidepressiva
- Antipsychotica

Pre, Post and 1 year later

Range BZD 1-3
Range APS 1-2
Range AD 1-2
Comparison with control nursing home

- Benzodiazepines
- Antidepressants
- Antipsychotics

Intervention PRE
Intervention POST
Control PRE
Control POST

Comparison with control nursing home
Conclusions

- Significant decrease in the use of psychotropic drugs which remains tenable after 1 year follow-up
- Education only has a limited effect
- The person-centered approach by project staff is an important added value
- Room for improvement
  - Prevalence of 60.5% remains high
  - Multiple use of psychotropics
  - Additional efforts are needed regarding antipsychotics
Use of psychotropic drugs 1 year later

Total = 61%

- 1 psychotropic: 33.7%
- 2 psychotropics: 17.9%
- 3 psychotropics: 9.5%
Results of the NH Leiehome 2013-2017

- Evolution of total psychotropic drug use

- 72% in 2013
- 61% in 2014
- 52% in 2015
- 51% in 2016
- 48% in 2017
Continuation of the project

✓ Non-pharmacological approach (i.e. meaningful activities) and its impact on psychotropic drug use
✓ Analysis of the findings
✓ Expansion of the project
Meaningful Activities

- Client centred
- Activity oriented
- Participatory attitude
- Systematics & process
- Interactive process
Setup of Meaningful Activities

• Development and maintaining of meaningful activities
• For a selected sample:
  • 2 parts
    – All new residents
    – Residents who already reside in the NH, divided into groups according to length of stay
Sample criteria

• Inclusion criteria for both:
  – Cognitively competent residents, operationalized via MMSE > 18/30
  – Katz scale O–A-B

• Exclusion criteria:
  – Residents with dementia operationalized via diagnosis and Katz profile D
  – Residents receiving palliative care
Intervention periode

- Testing started in October 2016
- Intervention during 5 months, followed by post-measurement
- Sample consecutively and systematically enlarged
# Meaningful Activities

<table>
<thead>
<tr>
<th>Variables</th>
<th>Baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Participants’ characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Gender (male/female) (n)</td>
<td>10/26</td>
</tr>
<tr>
<td>Age, years (mean; ±SD)</td>
<td>86.83; ±5.40</td>
</tr>
<tr>
<td>Length of stay, months (mean; ±SD)</td>
<td>27.4; ±38.99</td>
</tr>
<tr>
<td>KATZ-profiles (n/%)</td>
<td></td>
</tr>
<tr>
<td>O</td>
<td>10 (27.78 %)</td>
</tr>
<tr>
<td>A</td>
<td>11 (30.56 %)</td>
</tr>
<tr>
<td>B</td>
<td>10 (27.78 %)</td>
</tr>
<tr>
<td>C</td>
<td>5 (13.89 %)</td>
</tr>
<tr>
<td>Cognition (MMSE) (mean; ±SD)</td>
<td>25.95; ±2.53</td>
</tr>
<tr>
<td>Risk of depression (GDS &gt; 1/5) n(%)</td>
<td>12 (33.33%)</td>
</tr>
<tr>
<td>Mobility (EMS) (mean; ±SD)</td>
<td>13.66; ±5.36</td>
</tr>
</tbody>
</table>
# Meaningful Activities

<table>
<thead>
<tr>
<th>Variables</th>
<th>Baseline</th>
<th>Post-measurement</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcomes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of household activities (mean; ±SD)</td>
<td>2.74; ±1.67</td>
<td>10.51; ±6.38</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Number of hobbies and recreational activities (mean; ±SD)</td>
<td>11.83; ±8.34</td>
<td>8.63; ±6.81</td>
<td>0.114</td>
</tr>
<tr>
<td>Total number of activities (mean; ±SD)</td>
<td>14.57 ±8.62</td>
<td>19.14 ±10.37</td>
<td>0.108</td>
</tr>
<tr>
<td>Satisfaction with the NH-environment (NH Active Ageing Questionnaire) (mean; ±SD)</td>
<td>77.96; ±11.02</td>
<td>77.59; ±12.26</td>
<td>0.858</td>
</tr>
<tr>
<td>Culture</td>
<td>76.94; ±10.00</td>
<td>74.26; ±10.22</td>
<td>0.129</td>
</tr>
<tr>
<td>Life style</td>
<td>71.67; ±11.97</td>
<td>74.44; ±12.27</td>
<td>0.251</td>
</tr>
<tr>
<td>Psychological aspects</td>
<td>79.17; ±7.49</td>
<td>76.54; ±6.81</td>
<td>0.072*</td>
</tr>
<tr>
<td>Physical environment</td>
<td>66.89; ±11.87</td>
<td>71.33; ±9.00</td>
<td>0.059*</td>
</tr>
<tr>
<td>Social environment</td>
<td>66.48; ±15.90</td>
<td>70.93; ±12.66</td>
<td>0.070*</td>
</tr>
<tr>
<td>Economic aspects</td>
<td>78.33; ±10.44</td>
<td>77.31; ±10.70</td>
<td>0.493</td>
</tr>
<tr>
<td>Care</td>
<td>67.50; ±11.79</td>
<td>72.57; ±11.01</td>
<td>0.027</td>
</tr>
<tr>
<td>Animation</td>
<td>70.33; ±8.60</td>
<td>72.11; ±10.14</td>
<td>0.333</td>
</tr>
<tr>
<td>Participation</td>
<td>73.16; ±8.33</td>
<td>74.01; ±7.74</td>
<td>0.482</td>
</tr>
</tbody>
</table>
## Meaningful Activities

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<th>Variables</th>
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<th>Post-measurement</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication use (mean; ±SD)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of medications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychotropics</td>
<td>9,4; ± 5,01</td>
<td>9,2; ± 5,19</td>
<td>0,648</td>
</tr>
<tr>
<td>Psychotropics</td>
<td>1,06; ± 0,98</td>
<td>0,72; ± 0,91</td>
<td>0,008</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>0,39; ± 0,55</td>
<td>0,22; ± 0,42</td>
<td>0,032</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>0,50; ± 0,65</td>
<td>0,44; ± 0,69</td>
<td>0,487</td>
</tr>
<tr>
<td>Antipsychotics</td>
<td>0,17; ± 0,38</td>
<td>0,08; ± 0,28</td>
<td>0,083</td>
</tr>
</tbody>
</table>
Course of the project in 5 pilot NHs

1. Education
2. Inventorisation
3. Discontinuation
   1. Hypno-sedatives
   2. Antidepressants
   3. Antipsychotics
4. Application

1. Data collection
2. Final picture
Discontinuation

- Motivating residents to discontinue
- Preparing a withdrawal scheme together with the physician
- Offering non-pharmacological alternatives to residents
- Providing support to residents during and after discontinuation
- Acting preventively: initiating of medication appropriate?
Interim evaluation, May 2017

• Roadmap feasible to follow and use in five pilot NHs
  – Sometimes with small amendments by the project promoters
• Resistance by staff members started to decrease during the discontinuation phase
• Discontinuation of hypno-sedatives successful in four NHs
  – Positive results by residents: more alert and active...
• Success stories regarding Meaningful Activities have been collected
On the agenda

• So far, the project has been limited to processes at the level of the NH (= change of attitude)
• Analyze the impact on individual residents, i.e. the characteristics of residents that succeed in discontinuation of psychotropic drugs and those who don’t succeed
• Analyze impact on patient-related outcomes in connection with psychotropic discontinuation/reduction
On the agenda

• Collection and analysis of the results in 5 pilot NHs
• Focus on prevention, i.e. by assessing:
  – Impact on quality of life
  – Impact on fall incidents
  – Impact on health care related costs
  • Simulation figures NH Leiehome: annual savings of €6,000 (public price incl. copayment)
On the agenda

• Amending roadmap
• Integration of Meaningful Activities
• Transfer of expertise, methods, enlarging network; focus on prevention
• Facilitating further roll-out
• Research