Psychotropic Drug Utilisation in Older People in New Zealand from 2005 to 2013

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Outline

• Background
• Aims
• Method
• Results
• Conclusions
• Acknowledgements
Background

- International studies on psychotropic drug utilisation have shown high consumption levels (≥65 years)\(^1\)

- Long-term use has been associated with an increased risk of adverse events\(^2\)

- Limited epidemiological information on psychotropic drug use in older people in New Zealand\(^3\)

Aims

To describe and characterise national utilisation trend of psychotropic drugs used in older people New Zealand from 2005 to 2013
Method

- Repeated cross-sectional analysis of population-level dispensing data
- De-identified dispensing data extraction from Pharmaceutical collections by a unique identifier
- Categorised using WHO-DDD classification system
- Defined daily dose (DDD) per 1000 older people per day (TOPD)
Defined Daily Dose

For example, Citalopram 20mg; WHO assigned (20 mg)

\[ \text{DDD} = \text{Strength} \times \text{Quantity Dispensed} \]
\[ = 20 \text{mg/tablet} \times 1 \text{ tablet/day} \]
\[ = \text{WHO-DDD} (20 \text{mg}) \]

DDD per year for a hypothetical weighted DDD sum of 25,000DDDs normalised by population of say 500,000 will give a standard weighted utilisation:

\[ \frac{\text{DDD}}{1000 \text{ older people/day}} = \frac{\text{DDD per year} \times 0.05 \times 1000}{365} \]
Results

Fig 1. Psychotropic drug utilisation, yearly, in older people between 2005 to 2013. DDD defined daily dose

Published article for a part of this study can be found in Drugs Aging. 2014 Oct;31(10):755-68. doi: 10.1007/s40266-014-0205-1.

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Table 1: Psychotropic drug utilisation (in DDD/TOPD) compared by therapeutic class and subclass between 2005 and 2013 calendar years

<table>
<thead>
<tr>
<th>Therapeutic class</th>
<th>Therapeutic subclass</th>
<th>ATC CODE</th>
<th>2005 DDD/TOPD</th>
<th>2013 DDD/TOPD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antidepressants</td>
<td>SSRI</td>
<td>N06AB</td>
<td>53.9</td>
<td>73.4</td>
</tr>
<tr>
<td></td>
<td>TCA</td>
<td>N06AA</td>
<td>23.2</td>
<td>22.2</td>
</tr>
<tr>
<td></td>
<td>TeCA</td>
<td>N06AX/AA</td>
<td>0.2</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>MAOI</td>
<td>N06AF</td>
<td>0.4</td>
<td>0.3</td>
</tr>
<tr>
<td></td>
<td>SNRI</td>
<td>N06AX</td>
<td>2.2</td>
<td>10.0</td>
</tr>
<tr>
<td></td>
<td>RIMA</td>
<td>N06AG</td>
<td>2.1</td>
<td>1.4</td>
</tr>
<tr>
<td>Antipsychotics</td>
<td>FGA</td>
<td>N05A</td>
<td>2.2</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>SGA</td>
<td>N05A</td>
<td>4.6</td>
<td>7.1</td>
</tr>
<tr>
<td>Therapeutic class</td>
<td>Therapeutic subclass</td>
<td>ATC CODE</td>
<td>2005 DDD/TOPD</td>
<td>2013 DDD/TOPD</td>
</tr>
<tr>
<td>-------------------------</td>
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<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Anxiolytic</td>
<td>BDZ</td>
<td>N05BA</td>
<td>11.2</td>
<td>10.5</td>
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<tr>
<td></td>
<td>Non-BDZ</td>
<td>N05BE</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Hypnotic and Sedatives</td>
<td>BDZ Hypnotics</td>
<td>N05CD</td>
<td>25.5</td>
<td>17.5</td>
</tr>
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<td></td>
<td>Zopiclone</td>
<td>N05CF</td>
<td>33.8</td>
<td>48.1</td>
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<tr>
<td>National Total</td>
<td></td>
<td></td>
<td>159.5</td>
<td>195.4</td>
</tr>
</tbody>
</table>

Fig 2: Utilization of antidepressant medicines normalized by sex and five-year age group
Fig 3: Utilization of hypnotic and sedative medicines normalized by sex and five-year age group

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Fig 4: Utilization of psychotropic medicines normalized by sex and five-year age group
Fig 5: Utilization of antipsychotic medicines normalized by sex and five-year age group
Conclusions

• Overall, psychotropic drug utilisation in older people increased by one fifth (from 159.5 to 195.4 DDD/TOPD) from index date

• The utilisation of zopiclone was higher (>40%) despite its association with adverse events in older people

• Compensatory substitution with newer psychotropic drugs like atypical antipsychotics and SSRI antidepressants
Acknowledgements

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Thank You for Listening