Prescribing of psychotropic medications in Canada

Silvia Alessi-Severini, PhD

College of Pharmacy, Rady Faculty of Health Sciences
Outline

• Background on mental illness and psychotropic medications
• Prescribing of psychotropic medications
  • The case of antipsychotic use in Manitoba
  • The case of SSRI use in Manitoba
  • The case of benzodiazepine use in Manitoba
  • The evaluation of the IMPROVE program
Background

• Approximately 1 in 5 Canadians experiences a mental illness each year
• The economic burden of mental illness is estimated to be over $50 billion per year
• Approximately 4,000 Canadians die every year as a result of suicide
• Medications play a crucial role in the treatment of mental illness
• Spending for medication to treat mental illness represents a significant portion of public drug plan budgets
• Coverage inconsistencies among Canadian jurisdictions mean different access to different medications
Psychotropic medications

- Antipsychotics (AP)
  - First-generation agents (FGAs): e.g., haloperidol and phenothiazines
  - Second-generation agents (SGAs): e.g., risperidone, quetiapine, olanzapine...

- Antidepressants
  - SSRIs, SNRIs, TCA

- Benzodiazepines (BZD)

- Z-drugs (e.g., zopiclone)
Acknowledgments/disclaimers

• We acknowledge the Manitoba Centre for Health Policy, University of Manitoba, for use of data contained in the Population Health Research Data Repository under various projects derived from data provided by Manitoba Health, Healthy Living and Seniors. The results and conclusions are those of the authors and no official endorsement by Manitoba Health, Healthy Living and Seniors, the Manitoba Centre for Health Policy or other data providers is intended or should be inferred.

• conflicts of interests: none to declare
Methodology

• Studies conducted using the comprehensive health care databases of the Manitoba Population Health Research Data Repository (housed at the Manitoba Centre for Health Policy)
• DPIN (Drug Program Information Network) captures all Rx dispensed in the province regardless of insurance coverage
• Linkage to medical claims and hospital records through a “scrambled” PHIN (Personal Health Information Number)
• Universal provincial drug plan coverage based on income
• Provincial formulary historically “generous”
Antipsychotics use in Manitoba
Market share

![Graph showing the market share of antipsychotics in Manitoba from 1996 to 2006. The graph compares FGA and SGA medications, with FGA showing a decline and SGA showing an increase over the years.]
Antipsychotics use in Manitoba
FGA and SGA costs

Adapted from Alessi-Severini et al., Psychiatr Serv 59:547–553, 2008
Antipsychotics use in children (MB; 1996-2011)

Adapted from Alessi-Severini et al., Can J Psychiatry 57(1): 52-58, 2012
# SSRIs: Introduction of generic equivalents

<table>
<thead>
<tr>
<th>SSRI</th>
<th>Branded market entry date</th>
<th>Generic market entry date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluoxetine</td>
<td>Before 1991</td>
<td>August 1994</td>
</tr>
<tr>
<td>Fluvoxamine</td>
<td>Before 1991</td>
<td>April 1996</td>
</tr>
<tr>
<td>Sertraline</td>
<td>December 1992</td>
<td>August 1999</td>
</tr>
<tr>
<td>Paroxetine</td>
<td>May 1993</td>
<td>October 2003</td>
</tr>
<tr>
<td>Citalopram</td>
<td>February 1999</td>
<td>December 2003</td>
</tr>
</tbody>
</table>

Use of SSRIs in Manitoba

BZD use in Manitoba

Adapted from Alessi-Severini et al., CMAJ-Open 2(4): E208-E216, 2014
**IMPROVE** program (Improving Medication Prescribing and Outcomes via Education)

- Audit-and-feedback program of the Manitoba Government (April 2011) aimed at improving the safety and health outcomes for Manitobans receiving mental-health medications
- Quality Indicators (QIs) for potentially inappropriate prescribing: primary set focused on BDZ and anti-insomnia agents (Z-drugs)
- Drug-dispensation data from community pharmacies were analyzed, and when a QI was triggered, an educational package was mailed to the prescribing physician
**IMPROVE** program

- Implementation of the program proceeded in two waves:
  - physicians were assigned randomly to an intervention group (received educational packages about their prescribing behaviours immediately) (N=571)
  - the other half (control group) were scheduled for delayed implementation (they did not begin to receive educational packages until over one year later) (N= 576)
IMPROVE program results

- The ITT analysis found that IMPROVE had a significant positive impact on five of the six primary QIs.
- All five were related to benzodiazepine prescribing or anti-insomnia agent prescribing.
- Three of these were among the highest frequency QIs (>13,000 triggers in the study period).
# IMPROVE program results

<table>
<thead>
<tr>
<th>QI</th>
<th>Frequency of QI triggers</th>
<th>Intervention effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>BZD for adults</td>
<td>High</td>
<td>Significant</td>
</tr>
<tr>
<td>BZD for older adults</td>
<td>Moderate</td>
<td>Significant</td>
</tr>
<tr>
<td>Long-acting BZD for older adults</td>
<td>High</td>
<td>Significant</td>
</tr>
<tr>
<td>High dose BDZ for adults</td>
<td>Moderate</td>
<td>No change</td>
</tr>
<tr>
<td>Anti-insomnia agents for adults</td>
<td>High</td>
<td>Significant</td>
</tr>
<tr>
<td>Anti-insomnia agents for older adults</td>
<td>Moderate</td>
<td>Significant</td>
</tr>
</tbody>
</table>

Adapted from Chateau et al., Evaluation of the Manitoba IMPROVE Program Winnipeg, MB. MCHP, January 2015
Conclusions/points of discussion

• AP case study: expectations of better efficacy and safety prompted early adoption of newer agents despite higher costs and limited evidence

• SSRIs case study: reduced cost of generic equivalents did not appear to be a driving factor in the prescription of SSRI antidepressants

• BZD case study: clinical practice guidelines and audit-and-feedback programs can effectively improve prescribing and, ultimately, health outcomes
Co-Authors/Collaborators

Dr. James Bolton, Dept. Psychiatry, Max Rady College of Medicine, Rady Faculty of Health Sciences, UofM
Dr. Murray Enns, Dept. Psychiatry, Max Rady College of Medicine, Rady Faculty of Health Sciences, UofM
Dr. Jitender Sareen, Dept. Psychiatry, Max Rady College of Medicine, Rady Faculty of Health Sciences, UofM
Dr. David Collins, College of Pharmacy, Rady Faculty of Health Sciences, UofM
Dr. Robert Biscontri, Asper School of Business, UofM
Dr. Dan Chateau, Dept. of Community Health, Max Rady College of Medicine, Rady Faculty of Health Sciences, UofM
Mr. Matthew Dahl, B.Sc., Manitoba Centre for Health Policy, UofM
Ms. Sarita Jha, B. Sc. (Pharm), M. Sc, Cancer Care, Manitoba
Funding
References

Questions/Discussion

Portrait of Dr. Gachet, Vincent Van Gogh, 1890